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# The College Courier

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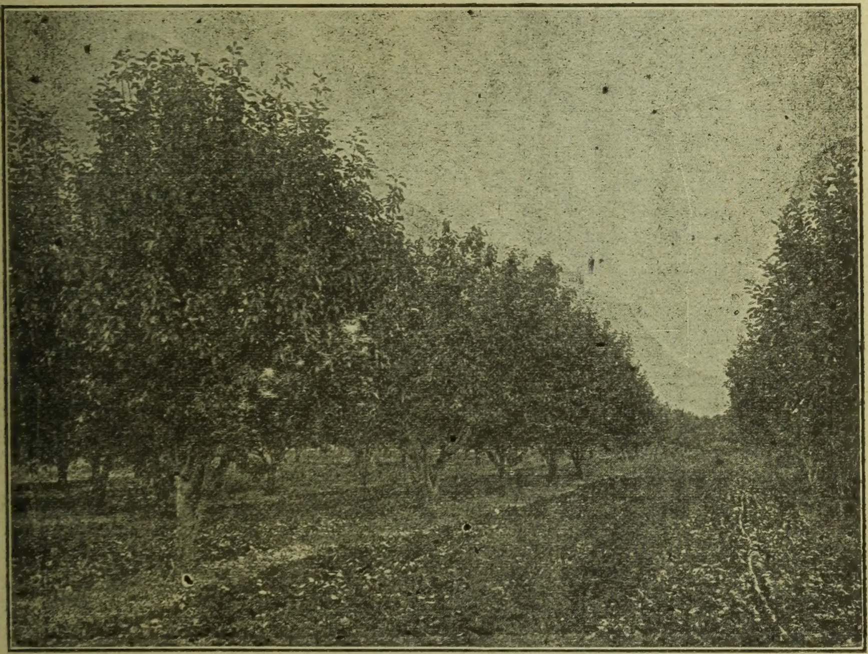

**A New Mexico Apple Orchard.**

Published Monthly by The
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State College, N. M.

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# THE COLLEGE COURIER

Published monthly by the New Mexico College of Agriculture and Mechanic Arts and sent free of charge to residents of New Mexico on application.

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# Editorial

## SERVICE.

It is the object of "The College Courier" to render real service to the agricultural and home economics interests of the State. There is great need for such a publication to impart practical information along all lines of agriculture and home economics. The rural population of our State is made up of people from nearly every State in the Union. Therefore, it is not surprising to find many farmers who are having rather a difficult time in solving some of their problems. Those who have come to us from the South, Middle West, and East are unfamiliar with dry farming and irrigation practices, and it is only natural that they should need considerable help in starting out.

The matter of starting right is vital and very important. Upon it depends the future development of our agricultural resources. Too often the mistake is made of spending large amounts of money advertising our country to get settlers; then after they are here, leaving them to "Root, hog, or die," at just the time when they need assistance most. Would it not be a wise and more profitable expenditure to use some of the money raised for advertising in seeing that the newcomer was started properly? One home builder is worth more to New Mexico's future than a hundred who come to speculate. We should be more interested in the success of the people already here than in those who may come.

The New Mexico College of Agriculture and Mechanic Arts, the natural source of agricultural information in the State, hopes, through its publications and many Station and extension workers, to be of service to all who will take the time to make their needs known. The endeavor of this publication will be to carry timely articles on agriculture and home economics, applicable to New Mexico conditions. It will be sent free to all residents of the State upon request.

It is the intention, within the next year, to publish in one issue of the "Courier" an index of the principal articles that have appeared in previous issues. Thus, if the various numbers are filed away after reading, by referring to the index one can very readily locate anything that has been published on a subject. In this manner it is hoped to make the periodical of more value to the recipients.

# MONEY IN "GOATS"

Were you ever in the goat business? I'll venture that a lot of fellows who read this have been and didn't know it.

You see there is more than one kind of goat, and in this particular instance I am referring to that species so often spoken about in that old slang phrase which goes something like this: "Somebody had to be the goat," meaning, of course, that some one got the better of some one else.

Now listen, and see if you recognize anything in the following story which would lead you to believe that there is money, real money, in the goat business, the kind referred to above.

Up in the San Luis Valley of Colorado the farmers raise potatoes, lots of potatoes; they have been raising them for years, and ofttimes their shipments amounted to a thousand cars. Every year, just before digging time, a swarm of buyers would swoop down on Monte Vista and begin to talk potato quotations.

It seems that these fellows were the most gloomy bunch of mournful pessimists imaginable. They shed gloom like the shadow of a tall building with the moon under an eclipse.

Before they arrived they had gained the information, somewhere, somehow, that the market was going to be flooded, that there was danger, real danger, that their quotations of 35c to 45c per bushel would be a ruinous price for the buyer to quote and that that price was quoted through a feeling of benevolent philanthropy. They told the farmers that they would do their best to keep the prices up, but that the farmer would better sell early in order to be ahead of the inevitable slump that would follow a glutted market.

Now it appears that there was living in Monte Vista a merchant who had watched this thing for years, and he had always found that the buyers were poor prophets, to say the least, because the price of potatoes always went higher in spite of the mysterious information the buyers claimed to possess.

Pondering this question soon after the advent of the first bunch of pessimistic buyers last year, this merchant asked himself this question: "Who makes potato quotations?" Finding no answer himself, he asked a number of his merchant friends, but none could enlighten him on the subject; so he prepared an article for his local paper, asking the same question, hoping that some one would have the answer.

None had the answer, but his article aroused the growers and the very next day a committee waited on him asking him if he wouldn't take up the solution of the vexing problem in their behalf, insisting in fact that he leave that night in quest of the answer.

"I didn't know where I was going, or what I was going to do," said this merchant, as he told the story to Mr. Farrell, of Washington; Mr. Cooley, of State College, and the writer in the lobby of a Roswell hotel. "But I determined to go somewhere and do something," he continued, "so I went to Pueblo.

"I knew two or three wholesalers there and I went straight to them, and what I learned convinced me that what we needed most was a selling organization.

"After gaining such information as I could through my friends I set out organizing my selling force.

"I stopped at all the larger towns between Pueblo and El Paso on the

Santa Fe, and between El Paso and Fort Worth, and in each place I appointed an agent to handle our crop. I wanted a force that would handle sixty cars a day and by the time I reached Fort Worth I had my organization completed.

"I then wired the farmers of my section to get busy digging and I wired a sixty-five-cent quotation right off the bat.

"This stirred up a hornets' nest among the buyers who were on hand, and they threatened all sorts of dire calamities, but I was in touch with the situation by long distance telephone daily and I clung to my first quotation until I saw that my organization was going to stand pat, then I stuck on five cents per bushel every third day.

"The last of our crop went over the dollar mark, we sold seven hundred cars at a net gain over any previous year of one hundred and fifty thousand dollars."

"All communities couldn't afford a movement of that kind?" was asked of this merchant; who, by the way, was Mr. C. B. Stoe, of Monte Vista, Colo. This is his answer: "The campaign just cost three hundred and fifty-six dollars, and a gain of one hundred and fifty thousand dollars is not bad for an outlay of that small sum, is it?"

Did Mr. Stoe learn anything of interest to New Mexico growers? Let us see.

"I spent some sixty days in Fort Worth marketing our crop," continued Mr. Stoe, "and I was in close touch with the commission business all the time I was there.

"I had occasion to observe the market methods of the Pecos Valley producer in disposing of his product; take apples, for instance.

"Now it happened that the apple market was brisk, and organized growers were getting the top prices for their shipments, yet when a car of apples would come in from Roswell, which they did on several occasions while I was there, the commission merchant would be compelled to exert all his ability in salesmanship to get freight charges and the usual commission out of the consignment.

"You see the Pecos Valley producer had not gone to the trouble of having a representative at that end of the game, and quick sales mean quick commissions for the commission man, and the personal element isn't a factor in the sale of produce where the personal knowledge of the producer ends when his goods are loaded for the market."

Let no reader of this article condemn the commission merchant or the buyer; their end of the game is just as legitimate as your end of the game. It is their privilege, duty, in fact, to make every dollar that they honestly can out of business, even though the returns to the producer in some cases may seem to indicate that some one along the line has got his "goat,"—the sort of goat that makes money for the other fellow.

New Mexico producers have their remedy, others have found it, and it lies in organization. Let us follow the example of the potato growers of the San Luis Valley and exterminate that sort of goat in our State.

## CORN IMPROVEMENT.

There is no State in the Union that produces as much corn to the acre as it might with better methods of selecting seed. We seem especially far behind the line in this respect. Reports from some farmers show excellent yields, while those from other farmers in the same locality are quite unsatisfactory. This condition is not only unnecessary, but unprofitable.

One way to get a start in corn selection is to make a thorough crib selection, or by buying the best corn in the community. Take a number of these ears and twice as many envelopes as there are ears. Put the same number on two envelopes. That is, have two No. 1, two No. 2, two No. 3, etc. Butt and tip all of the ears and then shell half of the number of rows. That is, if there are sixteen rows, shell eight of them, put this in one No. 1 envelope; shell the other half and put this in the other No. 1 envelope. Place one on the right and one on the left and proceed with all the ears in the same manner. This will make two piles with the same numbers in each pile.

Store one pile in a pail with a tight fitting lid, and the other pile in fruit jars, adding a little formaldehyde to keep the "bugs" out. At planting time take the corn out of the pail and use this the first year and save that in the jars for the second year, as will be described later.

Plant the rows, one envelope to the row, in regular order from 1 to the last number, as 1, 2, 3, 4, etc. It is also well to mark each row with a stake.

Give every row exactly the same treatment so that no row will have any advantage over any other row. This is important.

In the fall when the corn is mature, harvest and weigh every row separately and determine which rows were the best. As soon as this is done go to the stored envelopes and take out all but those that correspond to the rows that did the best. Leave these for planting. If they are all the same variety they may be mixed and planted in a small seed corn breeding plot. The soil for this plot should be good. If there is more than one variety, determine on the best and do not plant any other.

This gives a start, which if followed up by careful field selection, will increase the yield of corn.

When the corn is about mature the farmer should go over the breeding plot, study the crop closely, and make note of any peculiar condition that may exist. When the corn is mature, he should go through the breeding plot and select about fifty ears, or more. In selecting these it is necessary that the stalks be studied closely, for it is the whole plant and not the stalk or ear alone that determines what next year's crop will be.

It should be borne in mind that the pollen of the corn plant is carried considerable distances by the wind, and that in order to keep a variety pure it is necessary that it be planted several hundred yards from other corn. It is especially important that there be no other corn near the seed plot on the side from which the prevailing winds come.

Field selection is the surest road to success in corn improvement.

J. W. RIGNEY,
County Agent.
Chaves County and U. S. Dept. of Agriculture.

## Physical Education at N. M. College of A. and M. A.

At the A. and M. College the realization that the physically fit man or girl is the farmer's best asset is kept firmly in mind by the Physical Education Department. To the end of proper body building and physical improvement examinations and strength tests are given to the students at the beginning of each year. The functional strength of each student is determined, and if needed, corrective exercises are prescribed.

The re-examination of the boys at the beginning of this year provides some interesting statistics as to the amount of physical improvement in a year's time, and serves to encourage boys who need to improve their record. Out of those examined only the boys who make a grade of above 80, which is considered the A class, are allowed to participate in the major sports. The average of improvement shown has been large and in individual cases exceptional.

No gymnasium work is prescribed for the boys, as they receive the equivalent in the required military drill. Thus the Physical Director is able to concentrate on the development of competitive sports and inter-class games. In this direction the Physical Department has a two-fold purpose: the representation of the College by means of games with the other schools of the State in the major sports of football, basketball, track and baseball; and the development of the lighter and younger boys through the medium of the recreational games, such as handball and volleyball. The Inter-Class Basketball League also gives sport to a large number of boys, and entertainment to the student body and friends.

For the girls regular gymnasium work provides them with exercise and recreation. Marches, drills, folk-dancing and games are used successfully for body development, strength and grace. The culmination of the year's work, a costumed exhibition or gymnastic fete, held on the College lawn where folk-dances are executed against a foliage background accompanied by music and colored lights, is one of the important features of Commencement Week.

C. W. RUSSELL,
Director Department of Physical Education.

# Horticultural Department

## THE COLD-FRAME.

A greenhouse is often too expensive to be a profitable investment, but there is no reason why nearly every one may not have a hotbed or cold-frame. A good hotbed costs slightly more than a cold-frame, but labor is the chief item of difference. Glass is the most expensive part of a small family cold-frame or hotbed, as there are usually old boards enough around any home to construct a suitable frame.

A hotbed differs from a cold-frame in that it requires a bottom pit in which manure can be packed. This in fermentation gives off heat which helps to keep the plants warm. A cold-frame depends entirely upon the heat from the sun's rays, but this is sufficient, especially in the early spring, for all ordinary purposes.

A well built cold-frame will supply lettuce, radishes, green onions, parsley, violets, pansies and many other desirable plants throughout the winter. Besides this it is a very good place to start bulbs and early vegetable crops. Among those vegetables which will give the best returns from such early forcing are cabbage, cauliflower, tomatoes, eggplants, peppers, celery, melons, cucumbers and sweet potato slips.

The cold-frame should be placed, if possible, on the south side of a building or fence, so as to give protection from the cold winds. This will also give the added warmth from reflection of the sun's rays, which is to be found in such places. The bed should be about six feet in width and as long as desirable. The length of it should lie east and west. The north side should then be from two to four inches higher than the south side. The slope of the glass thus obtained will give drainage to the sash, and being to the south will increase the warmth by presenting the glass more squarely to the sun's rays.

Two-inch lumber is probably the best for the framework, as it gives stability. Commonly a two-inch by twelve-inch is used for the back or north side of the frame, and a two by eight for the south side. Wider lumber might be slightly better but it is more expensive and not so readily obtainable. If the bed is long the frame should have a brace every four or five feet to keep the boards from pushing in and warping. A two-by-four set even with the top edges of the framework makes a good brace.

The best plan of construction is to build the framework to fit the sash. The sash should not be much larger than three by six feet so that they may be easily handled. However, these measurements are seldom exact, as the sash is made to fit the glass and may be slightly larger or smaller. For this reason one will get better results if he measures his sash before starting the framework and plans accordingly. Screws are better than nails, for the frame can then be taken apart and stored out of the way during the warm weather when the bed is not in use. This will also help to prevent the splitting and warping of the boards. Dirt or manure should be banked around the outside of the frame. It will help keep the bed warm on cold nights.

Special attention should be paid to the soil. A good bed is one of the most important factors. A good loam well enriched with composted manure or leaf mold is the best. Often the addition of sand will improve the conditions wonderfully. Work the soil well, removing all stones and lumps. Screening is a good plan where one can afford to give the extra attention. This soil should be at least four inches deep. Work it well in preparation. Then level and firm it carefully. A loose seed bed will settle in spots, leaving holes. The result will be uneven irrigation, poor germination and a poor crop. The surface of the soil should be from six to eight inches below the glass on the south or low side.

Glass is the cover best adapted. Cloth alone may be used where the plants have obtained a good start before cold weather, or in holding plants dormant. In places where the temperature drops low at nights a cloth or mat covering should be pulled over the glass to give added protection. This must also be done when tender plants are grown. Melons, peppers, tomatoes, etc., will be killed by freezing temperatures, so they must be carefully protected. Lettuce, radishes, cauliflower, cabbage, etc., are not injured materially by slight freezes.

In germinating seed, especially when it is weak or planted in hot weather, dirt thrown over the glass will shade and prevent drying out. It will also keep out much of the heat, however, and when warmth is desired, cloth, paper, or boards spread over the seed will be better.

Ventilate every warm day by propping up one end of some of the sash by means of a stick. A few or all of the sash may be removed in warm weather.

Irrigate well when at all. Do not sprinkle the surface every day, but soak the ground when it begins to get too dry. Then cultivate as soon as possible. This will help much to keep the plants strong, rapidly growing and free from diseases. Cultivation is as important in the cold-frame as in the field.

"Harden off" plants to be moved to the field. This is accomplished by withholding water and gradually exposing the plants to lower temperatures for a few days. Soak the plants well a few hours before digging and leave as much dirt on the roots as possible.

E. H. DIVELBISS.

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## POINTS FOR THE GARDNER.

The following summary of Farmers' Bulletin 647 of the U. S. Department of Agriculture, entitled "The Home Garden in the South," sets forth facts that are very applicable to New Mexico conditions:

(1) In nearly all section of the South there is a scarcity of fresh vegetables during a large part of the year.

(2) A well kept garden will yield a return eight to ten times as great as that from an equal area devoted to cotton or to other general farm crops.

(3) The value of vegetables in the diet is a great deal more than the mere food or money value, as they furnish a large part of the essential salts which are necessary to the well being of the human system.

(4) The location selected for the garden should be as near the house as possible. Practically any type of soil can be used for vegetables, but a sandy loam is to be preferred.

(5) Good drainage is of prime importance. If the land has not good natural drainage, artificial drainage should be employed.

(6) Where cultivation is to be done by means of horse tools the garden should be long and narrow, with the rows running the long way of the garden.

(7) The garden should be laid off in straight rows for either horse or hand cultivation.

(8) An area of one-fourth to one-half acre in garden crops should be sufficient for a family of average size.

(9) The garden should be occupied as large a part of the year as possible. As soon as one crop is removed, another should be planted, so as to have a succession of crops coming on all the time.

(10) A good system of rotation should be followed in the home garden.in order to keep diseases and insects in check and to keep the soil in good condition.

(11) The soil for the garden should be thoroughly prepared before planting vegetables. A deep soil is desirable, but the depth should be increased gradually.

(12) Barnyard or stable manure is the best fertilizer for vegetable growing, as it furnishes both plant food and humus. Where manure is not available, green crops, such as cowpeas, soy beans, vetch, or crimson clover, should be turned under to supply humus and part of the nitrogen. Commercial fertilizers can be employed to furnish most of the plant food. but without humus in the soil the fertilizer will be of little value.

(13) For early crops of cabbage, cauliflower, tomatoes, peppers, egg-plant, etc. ,the seed should be started in a hotbed or cold-frame, or in a box in the dwelling. In most sections of the South a cold-frame will be satisfactory, but in the colder regions a hotbed should be used.

(14) In order to secure good stocky plants with large root systems, the seedlings should be transplanted at least once before setting in the garden. The plants should be set two inches apart each way in a box, hotbed or cold-frame.

(15) Before setting plants in the open they should be hardened off, to prevent a serious check to growth. This can be accomplished by expos-

ing the plants to outside conditions during the day in mild weather and finally leaving them uncovered at night when there is no danger of frost.

(16) Thoroughly soak the plant bed before removing the plants, so as to have as much soil adhere to the roots as possible.

(17) In setting the plants in the garden, thoroughly pack the soil around the roots. When the soil is dry, it is advisable to apply a little water around the roots. As soon as the water has soaked in, the moist soil should be covered with dry earth to prevent baking.

(18) Give frequent shallow cultivation with small-tooth cultivator. A sweep or turnplow should not be used unless the land becomes so weedy that cultivators will not do the work.

## GARBANZO

### A Promising Pea.

The garbanzo is a legume, a sort of pea that is used quite considerably by foreigners, mostly in soups. The pea or ripe seed can also be ground and used similarly to our breakfast foods. The best market for this pea has been in some of the southern European countries, particularly Spain, Portugal and Italy. These countries have imported a great deal of the garbanzo from Coahuila, Sonora, and Sinaloa, Mexico. These Mexican states grow a large amount of the garbanzo to ship into these European countries.

Very little, if any, of the garbanzo has been grown in the United States. However, it can be grown in a number of sections. The Experiment Station has tried garbanzo on a small scale. It is found that this pea is quite hardy and will stand considerable cold, but probably not as much as the garden pea. In the preliminary tests made last year, the seed was planted the last of January. The light freezes that occurred during February and March were not injurious to the plants in any way.

The seed can be planted in the same way as are beans. The rows may be two to three feet apart. The plants in the row should be from twelve to eighteen inches apart. The seed is roundish--ovate, slightly pointed, and is about twice as large as the garden pea. The depth of planting the seed may be from two to three inches. Irrigate it immediately after planting to produce germination. The plants do not resemble the pea vine very closely, being more roundish and uniform in growth.

The seeds are produced singly in pods. Under good tillage and in good soil the garbanzo seems to be quite productive. In the preliminary trial a one-thirtieth-of-an-acre plat, where the seed was planted in rows two feet apart and the plants one foot in the row, produced sixty pounds of seed, which were harvested the last of June. Computing the yield of an acre at this rate it would be 1800 pounds.

FABIAN GARCIA,
State College, N. M.

## NEW MEXICO PINTO BEANS.

### Think, Five Counties Have Shipped 237 Carloads This Year.

No more Rosillo Beans; these beans shall be known from now on as NEW MEXICO PINTO BEANS. And why not? These beans have been developed to their highest perfection in type and in nutrition on the dry farms of New Mexico. The natives have planted these beans for centuries; unconsciously they have developed them to their present standard.

There seems to be a confusion among the buyers of the New Mexico Pinto bean; these Rosillo beans have been bought for Pinto beans; Pinto means spotted or mottled; there are many varieties of the Pinto bean, and in order to distinguish this most valuable bean from all others, we have chosen to call it the New Mexico Pinto bean.

This is the best bean that we have in New Mexico, and is of the greatest commercial importance, I believe, of anything grown in the Southwest; we are not ashamed of these beans; we are proud of them; we like them; the Japs like them; Uncle Sam's soldiers like them; the Belgians like them, and I think that the Germans would like them.

The New Mexico Pinto bean is one of the largest varieties; it is of a pinkish cream or tan color, mottled with brown, while the other beans known as Pintos are yellow, black, red or purplish blue, with white markings. The 24th annual report of the New Mexico Agricultural Experiment Station discusses this bean.

There are several reasons why this bean should be called the New Mexico Pinto; in the first place, all of the words in the name are pronounced and written the same in either Spanish or English. New Mexico should be proud of having these beans named for the State, because of their commercial importance.

Just about a year ago, when the Belgians were suffering for the real necessities of life, Gross, Kelly & Co., of Las Vegas, sent them a carload of beans; one side of the car bore a banner upon which was printed in large letters, the following:

"NEW MEXICO PINTO BEANS FOR BELGIAN SUFFERERS."

Just how many people read that sign, no one knows; and just how these beans were enjoyed by the poor unfortunate war-stricken people, no one knows, either.

These people had the blessings of the gift; but New Mexico was the recipient of the market which was opened up for the New Mexico Pinto bean.

Two hundred and thirty-seven carloads of these beans have been shipped this year from the following counties: Union county ,Clayton and Des Moines, 75 cars; Colfax county, Springer, French and Maxwell, 10 cars; Mora county, Colmor, Wagon Mound, Watrous, Shoemaker and Roy, 55 cars; San Miguel county, Las Vegas, 10 cars; Torrance county, Estancia, Willard, Mountainair, 87 cars.

These were shipped to New Orleans, Galveston, Cuba, Philadelphia, New York, Chicago, Detroit, California and other places. This shows that we are not the only ones appreciating the value of the New Mexico Pinto bean.

Several of the large firms handling all kinds of beans have this to say of the New Mexico Pinto bean:

"Are you acquainted with this bean? If not, let us tell you that it is the easiest to cook, the best flavored, mealiest bean on the market; it is a success everywhere it is introduced."

This bean is not only a success on the market, but also in all of the dry farming districts wherever it is introduced; it is drought resistant and a heavy yielder.

We had never realized the importance of the New Mexico Pinto bean, and of course little has been done for the improvement of the variety in itself.

Last year, with the co-operation of the County Agent, a few farmers in San Miguel county hand-picked the largest, the most sound and true to type beans. These were grown according to the instructions of the Agriculturist; and as a result, we have developed a more uniform type of these New Mexico Pinto beans.

It would be well for all farmers interested in raising beans to hand-pick sufficient beans each year to plant at least one acre of land; this would be only 15 pounds; it would be but amusement to almost any family, both parents and children, to sit up one evening and join in a bean-picking contest. In this manner we will provide ourselves with the very best kind of seed that we have been able to develop.

All farmers who have good seed for sale at good prices have taken pains and applied intelligence to mix with their soil. You can do the same thing.

M. R. GONZALEZ,
County Agent San Miguel County,
U. S. Dept. Agriculture.

# Boys' and Girls' Club Work

## HOW CLUB WORK IS CONDUCTED; THE LOCAL LEADER'S PART.

It is absolutely necessary for every organized Boys' and Girls' club to have a Local Leader. The success of the club work depends largely on the leadership and enthusiasm of this Leader. Boys and girls will follow demonstrations far better than they will simple instructions. They want to be shown.

The work of a Local Leader in a Boys' and Girls' club is not burdensome. At least, it is not our intention to make it so. It is really a pleasure to the Leader to watch the development of the youngsters as they work out their projects. The main thing for the Leader is to keep up the courage of the Club members when things go wrong. The idea is to get the contestants to complete the work they have begun even if it is not turning out as well as was expected. Teach them to get the habit of finishing the job.

We should like to know at least once a month just what the members of each Club are doing. They do not feel the importance of this monthly report to the State Leader and will neglect it unless the Local Leader sees to it that the report is made out and sent in. Blanks are furnished by the State Leader and a return envelope is sent out with each report. The reports are simple and can be filled out in just a few minutes when all Club members are present. The Secretary of the Club should be required to do the work, but in some cases they will have to be directed by the Local Leader. This will develop the business faculties of the Club members.

The lessons sent out by the State Leader should be distributed among the Club members at the regular monthly meetings. These lessons should be read over by the Local Leader and Club members during the meeting so each member will have an understanding about what is to be done in carrying out the lesson. The Local Leader can give valuable assistance by explaining these lessons and answering members' questions.

Some have the idea that a Local Leader should have expert knowledge of the project the Club members are working out. But this is not the case. If the Leader has this knowledge, well and good; but many of the Club members make splendid success where the Leader knows very little about the project. The main thing is to see that each member is actually doing some work and is trying to follow instructions. Along with the work, it is very important that members keep records of all that is being done on the project. Local leaders should have the members bring their note books to each meeting. These note books should be examined and suggestions given as to the simplest and best way to record the happenings. A well kept record is the most reliable guide the Leader has that the Club member is doing good work.

The place of meeting is quite important. We suggest that the best place to hold a Club meeting is not at the school house; but at the house of some member, out on his plot, around his pig-pen, in her chicken yard or in her kitchen. There you see just what that member is doing and how. If it is an example of good work, commend it and urge the others to follow the example. If the work is not up to the standard, let the members criticise the work and help the member to correct it. Have a purely social meeting once in a while or devote some time to this after the business is finished. Play is a fine thing when the work is done.

### How to Organize.

Present the Club work, decide on a project, enroll the boys and girls interested, elect officers from among the Club members, choose some older person as Local Leader—a person who can and will do the work,—have each member sign an application card, the officers of the Club giving their titles; send these cards to the State Leader's office, receive a CHARTER with names of all members and Leader on it and your Club is organized ready for business. After the organization is completed, lessons are sent for distribution. These are to be read, discussed or explained and then worked out. Then a meeting should be called soon after the lesson has been well started or finished and a report should be made on the blank furnished by the State Leader. This report is mailed by the Secretary of the Club in the return franked envelope sent out for that purpose. At this same meeting another lesson should be distributed, which has been sent to the Secretary for the members of that Club. Thus the work continues, with lessons, demonstrations and reports till the project has been completed. The Club should meet about once a month, or oftener if the members desire.

### What Club Members Do.

1. The Club members enroll for definite work.

2. They select a Local Leader and organize.

3. They follow instructions, do work and keep records.

4. They make exhibits of their products in some contest.

5. They make a final report and write a story telling how they did their work, showing the cost of production, giving the value or the sales of the project and the net profit.

Any intelligent, willing, working boy or girl can do Club work and achieve success in it, become efficient and make a profit while doing it.

### An Assistant State Leader Appointed.

It will be a pleasure to the boys and girls who attended the State Club Encampment to learn that Mr. J. H. Toulouse has been appointed Assistant State Leader in Club Work. Mr. Toulouse will have his office at Albuquerque for the present and do organization work in the northern counties of the State, reaching down to Valencia and Socorro. He will also work along the Belen Cut-off as far east as Vaughn. At this point he will work north along the E. P. & S. W. Those points needing help should write Mr. Toulouse.

Those desiring general information about the Club work will write the Extension Office, State College, N.

M. From this the State Leader will distribute literature, issue Club lessons and keep the Club records for the whole State.

It is the purpose of the office of Boys' and Girls' Club work to serve every community in New Mexico that really wants to have its young people get into some club project and demonstrate the practical value of this junior agriculture and home economics work. We want the boys and girls to "learn to do by doing," and only those who really want "to do" things are asked to enroll as members.

### The Time to Enroll for Club Work.

Boys and girls who want to get into the contests for this year by working out some Club project must organize their Clubs and sign up their applications on the enrollment cards by April first. Choose your project, send for Club Circular on that project and sufficient number of enrollment cards for all over ten years of age and under nineteen who want to work out that project.

### Premiums Offered.

The boys and girls of Chaves County have already been offered three good premiums—one in the Pig Club and two in the Poultry Club. The first is a pure bred Duroc Jersey gilt and the latter are two White Plymouth Rock roosters, one worth $10 and the other worth $5. These premiums are worth working for.

This is the way to get the boys and girls going. If every individual, corporation, bank, commercial club, fair asociation or what not would put up some premium as an inducement to the boys and girls for real achievement, the youngsters would "deliver the goods." Reader, what have you to offer? Let it be something that will make for manhood in the winner and help him to achieve something worth while.

### Help From Washington.

Mr. George E. Farrell, Assistant in Club work for the North and West, Washington, D. C., spent several days with us during February, demonstrating organization work and strengthening the methods of the Club leaders of the State. Mr. Farrell is an experienced leader of Club work, having been a Country-Life Director in Cook County, Illinois, before going to Washington. Cook County has Club work in all of her schools as a part of the regular school work—an innovation that is proving a success. Mr. Farrell went from here to Arizona, California and other Rocky Mountain and Pacific Coast states.

### The State Leader Active.

The organization period for Boys' and Girls' Clubs began in January and will continue till April first. It is important that all Clubs for the year be organized and busy by the latter date.

The State Leader of Club work spent three days in Luna County assisting Miss Goebel, County Superintendent, to get the Club work started there. A good interest among the boys and girls was shown, and several Pig, Poultry, Crop and Garden Clubs have been organized.

County Agent Barber, of Dona Ana County, is pushing the Corn Clubs among the boys. The girls are expected to do their share of cooking and sewing.

In Otero County, the State Leader assisted Supt. R. S. Tipton in getting the Club work started at Alamogordo, Tularosa, La Luz and Mountain Park. The snow prevented their reaching further into the mountain districts. Clubs have been organized at all points visited.

Two profitable weeks' work were given to Chaves and Eddy Counties. In Chaves, night meetings were held, at which illustrated talks on Club work were given by J. W. Rigney, the County Agriculturist, and W. T. Conway, State Leader of Club Work, before parents and children. Meetings were held at a number of school houses in and around Roswell, Dexter, Hagerman and Lake Arthur. The night lectures were usually followed up by organizing Clubs the following day.

**LLOYD CONN, Artesia, N. M., and His 430-pound Pig, Peggy.**

This hog, which was raised by a member of the Boys' Pig Club, won first prize, in the fat hog class, at the fairs at Artesia, Roswell, and Albuquerque the past fall.

Several Clubs had already been organized in Eddy County by County Agent Knorr, before the State Leader reached that section. However, good work was accomplished by visiting these Clubs and encouraging the members to carry out their projects. Pig and Poultry Clubs are taking the lead in Eddy County. The boys and girls are going to demonstrate what can be done with good livestock. Even out on the plains, seventy miles east of the Pecos Valley, in and around Lovington, there is a splendid interest in the Club work. About eighty boys and girls of that section have entered the Poultry Club work and a few have chosen Pig Raising. Some of the larger girls have decided to take up the sewing project.

It was very interesting to watch the boys of the Pig Club at Loving select their pigs. Mr. Arthur, the Local Leader of the Club, had promised to sell each boy of the Club a pig for $1; provided they would come and select their pigs and raise them. If they fail, at any time, to tend the pigs properly, the County Agent is to take the pigs away, return them to Mr. Arthur, and refund $1 each to the boys surrendering them. It is the firm belief that none of these pigs will be returned to the original owner. The boys were very enthusiastic, the majority having their pig pens ready to receive the "red rooters." The pigs weighed from fifteen to forty pounds, and were high-grade Durocs.

# The Home Department

### The Wheeled Serving Tray.

For years and years men have made use of the wheelbarrow in their out-of-door work, but it is only recently that a similar convenience has been constructed for use of women in their housework.

As a means of conserving time and energy it almost ranks with the business man's automobile. If the steps that are saved in setting the table and removing the dishes three times a day, by the use of the wheeled serving tray, could be counted, no home would be considered adequately furnished without one.

Its greatest usefulness is found in the home where the housework is all done by one person, and where the kitchen and dining room are separate. It can first be moved to the cupboard or china closet, receive its load of dishes, cutlery and linen for setting the table, then wheeled to a convenient position and the things for the table put in their proper places. The tray is then wheeled to the kitchen and receives the food for the whole meal, after which it is taken back to the dining room, where it stands at the left of the housewife, near the table, making trips to the kitchen between courses unnecessary. When the meal is finished the dishes are placed on the tray and are wheeled out to the kitchen.

There are a number of serving trays on the market, all more or less expensive. One can be made by attaching castors to the legs of an ordinary small-sized table, but such a contrivance moves rather slowly and usually makes a good deal of noise. A better one can be constructed with a framework of oak or other wood, with wheels six or eight inches in diameter attached to the front end; the table being propelled by means of a handle at the back end, while the legs at the back end are slightly lifted from the floor. There can be two shelves made of compo or beaver boards, one placed eighteen inches above the other. If the top one is removable, it can be used as a tea tray, and, in fact, perform all the functions of the ordinary hand tray.

This table is so simple in construction that any one handy with tools can make it in a very short time, and at a very small cost. Such a contrivance is invaluable in the farm home in the way of saving strength and time.

GAIL RICHIE,
State Leader in Home Economics
Extension.

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### Cake-making.

Requirements of a good cake:

1. Uniform thickness. Unevenness shows either the use of too much flour or carelessness in baking.

2. Fine and even grained and delicate in texture. Poor texture and grain indicate careless mixing or wrong proportions of ingredients.

3. Light, tender and moist but not sticky. Heaviness is due to wrong temperature of oven, too much or too little baking powder, too much fat or too much sugar. Stickiness is due to too much sugar or incomplete baking. Dryness is due to too much flour.

4. The crust should be tender, of uniform light brown color and should be rather thin.

Materials used:

1. Fresh eggs.
2. Sweet, pure fats.
3. Fine granulated sugar.
4. Pastry flour or good quality bread flour. A pastry flour may be made by substituting two tablespoonfuls of corn starch to each cupful of

bread flour. That is, for a recipe requiring three cups of flour, six tablespoonfuls (or one-third of a cupful of corn starch, and two and two-thirds cupfuls of bread flour, would be used.

5. Choice nuts, fruits and flavorings.

Divisions of time in cake baking:

First quarter—Rises.

Second quarter—Continues to rise and begins to brown.

Third quarter—Browns but does not rise.

Fourth quarter—Neither rises nor browns, but grows firm and shrinks from the pan.

When done:

(a) A toothpick, when inserted, comes out clean.

(b) Springs back when pressed with the finger.

(c) Makes no sputtering sound when held close to ear.

## CURTAINS AND DRAPERIES.

Curtains and draperies which were designed for shutting out light, heat or cold, are often used for no other purpose than to fill space. Mantels covered with lambrequins become dust catchers and are also very inartistic. Our dislike of the imitation should influence us just as much in our choice of furnishings as in our choice of friends—the sham should have no place in our homes.

Sham lace curtains are undesirable. The madras, scrims, voiles and marquisettes cost little more than the imitation lace and are easily washed. Draperies, too, may be of washable materials. Those which carry out the color scheme of the room are most pleasing. Figured materials against a plain wall give pleasing effects, while plain materials are more pleasing against a figured wall. Cretonnes, chintzes, tapestries, monk's cloth and burlap are all good materials for draperies. Curtains and draperies should conform to the structural lines of the windows or doors at which they are hung.

HELEN SCOTT,
Ohio.

## TO DETECT ADULTERANTS IN COFFEE.

1. Grind the coffee fine then shake it in cold water. If the coffee is pure, much of it will float, while the ordinary adulterants sink. If chicory is present it will color the water brownish red.

2. Shake finely ground coffee in a strong solution of common salt, and let stand in a tall glass vessel. If nearly all of the solid floats and the liquid is colored amber the coffee is pure.

3. Spread the coarsely crushed grains on white paper and examine with a magnifying glass. Chicory grains look like dark colored gum, and are bitter to the taste. Fragments of cereal grains may be detected easily with a little practice.

L. A. HIGLEY.

## PIGEONS CARRY HOG CHOLERA.

Pigeons are responsible for about 20 per cent of the spread of hog cholera, according to the authorities who are dealing with its eradication. The farmer who owns or harbors pigeons should either confine them at home or dispose of them. Pigeons fly from farm to farm in search of food which they generally find in the feed yards. In flying long distances and visiting many yards they easily get the germs on their feet and infect a whole neighborhood before people realize that cholera is in their herds. In 1915 the loss from hog cholera in the United States was estimated at $750,000,000, and if one-fifth of this can be attributed to pigeons, they will have to go. —From "News Letter," Ohio State University, February, 1916.

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# The College Courier

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A WELL PRUNED PEACH TREE FOR NEW MEXICO CONDITIONS.

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# THE COLLEGE COURIER

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## Editorial

The fruit tree agent is again abroad in the land, and no doubt the results of his operations will be of benefit to the State. Certainly many of the agents are entirely honest and conscientious when it comes to selling trees. It is also true that many of them are well informed regarding the best varieties of fruits to plant in the different sections of the State; and when such is the case, such agents often render a real service to the community by giving advice regarding varieties.

On the other hand, it must also be stated that every now and then, even at this late day, the operations of unreliable fruit tree agents come to light. One seldom hears, nowadays, of the man who wants to sell seedless apple trees, "which are proof against the codling moth, since this pest lives on the seeds." But we do hear occasionally of the agent who is selling pitless cherry trees or varieties of apricots that are guaranteed to produce a full crop of high-grade fruit every year, not being injured by the frost. Selling certain varieties under attractive fictitious names, at exorbitant prices, is another practice sometimes resorted to by irresponsible tree vendors.

It is also quite evident that some agents, and even nurserymen, are entirely too enthusiastic regarding the fruit growing possibilities of various sections of New Mexico. Excellent fruit of many species is produced in the State, and a few fruit trees of well chosen varieties, as a home orchard, would add to the pleasure and attractiveness of life on many New Mexico farms and ranches where such orchards do not at present exist, but where they could be grown in many cases, with little trouble and expense. Of course no one can state with any certainty what the conditions will be, regarding the fruit or any other horticultural or agricultural industry, a few years in the future. It may be said that the outlook at present is favorable for the growing of a few of the fruits in this State on a commercial scale, providing the orchards are taken fairly good care of and the fruit handled and disposed of in a businesslike way. However, it must be admitted that it yet remains to be seen whether some of the more perishable fruits will average as large a return per acre as some of the forage or grain crops; even though such fruits are shipped out in car lots. Freight and icing charges are rather high, to the large markets, and there are several things that may occur—and, unfortunately, often do occur—to prevent a reasonable profit from being secured from the growing of one or two of the more perishable fruits on a large scale in New Mexico.

If it is desired to grow fruit, especially if on a large scale, the soil and climatic conditions should be at least fairly favorable, and the location of the orchard should be fairly close to a shipping point. Unless such conditions are favorable, with sufficient moisture and reasonable freedom from destructive hail storms, it will often pay better to grow some other crop. In no case should a larger acreage be put in orchard than can be properly taken care of.

# County Agricultural Organization

The letter given below was written in response to a questionaire concerning "Agriculture and Commercial Organizations," and is reprinted from the report of the proceedings of the First Annual Meeting of the National Association of Commercial Organization Secretaries, held in St. Louis, in September, 1915:

W. E. Holmes, Secretary Commercial
Club, Sioux City, Ia.

Dear Bill:

Your questionaire received. Why is it when an ordinarily sensible individual prepares one of those infernal things, he invariably leaves a lot of space where none is required and leaves none at all where a page is needed?

I have discarded the questionaire and you'll find all the facts in the following, as briefly stated as possible:

In the summer of 1912 the secretary of this organization and the president of the First National Bank, who is a live one, and wanted to make himself solid with the soil tillers, toured Scott County, in a 1909 Cadillac visible, distributing literature, calling meetings, ticketing the bell cows of every township, and doing other needful things in connection with the formation of a county agricultural organization. The Commercial Club provided an office, furniture, stenographic help and other necessaries, the government contributed $1,200 a year, the business men of Davenport dug up even a larger sum, and the farmers of Scott County yielded $124.19. With a favoring wind their moans could be heard for miles.

Cheered by the results, we induced a kindly millionaire with a penchant for agriculture, to guarantee the payment of any deficit that might be incurred, and launched the Scott County Farm Improvement League upon a chilly world. Then we bought a second-hand fordcar and a tank of gasoline, hired a solemn young man from Ames and we were ready for business. diate. Although the young man from Ames can tell from looking at a rolled oat whether it was planted with a drill or a shot-gun, and is equally proficient in other directions, he was at first the object of considerable suspicion. Some farmers met him on the wrong side of the front gate, with their hands on their Ingersolls, and some of them shooed their stock in the barn when the second-hand fordcar hove in sight. His advice was as

Our success was not exactly immewelcome as a case of smallpox and was followed as literally as the ten commandments. And when he insisted that there were better methods of testing seed corn than by looking at it wisely through a pair of ten-cent specs; that cholera serum was not invented by black hearted confidence men to separate the farmer from his loose change; that alfalfa will grow in Scott County, and that sprayed trees yield more and better fruit—he was looked upon as a hopeless and dangerous lunatic.

Two years elapsed!

Tested corn came up, and untested corn did not; serum-treated hogs lived and untreated hogs died; sprayed orchards bore fruit, and unsprayed orchards did not; alfalfa grew and thrived, and returned big yields. The farmers began to smile upon the young man from Ames. Some gave him buttermilk. A few invited him to supper. The live bank president began to believe some of his own agricultural predictions. The secretary of this organization began to hope. And the farmers began to give up money. Another year slipped by!

The second-hand fordcar and the young man from Ames are welcome guests on every farm. The live bank president is known as the farmers' friend, and his rural deposits make him blush. The secretary of this organization calls the farmers by their first names, and hopes one of them may some day join the Commercial Club. The government still produces $1,200 a year, the business men still dig up even more, but the farmers—God bless 'em!—are parting with about a thousand. The sun shines, the birds sing, the corn grows as thick as clover, the hogs die of old age, the alfalfa is cut twice a week, the orchards groan with the weight of sanitary, sprayed fruit, and the Scott County Improvement League is considered to be the best ding-busted organization in the whole blamed state.

Sincerely yours,
Irving C. Norwood,
Secretary.
Davenport (Iowa) Commercial Club.

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# A SIX THOUSAND DOLLAR HAT

The following item recently appeared in one of the El Paso papers:

"Tularosa, N. M., March 3, 1916.—A well in the Tularosa Basin, which cost $6,000 to drill and equip, water from which was declared absolutely worthless by an El Paso chemist and a Las Cruces physician, was purified for its owner recently through the efforts and technical knowledge of Homer Powers, a senior at the New Mexico College of Agriculture. The well was drilled for W. N. Fleck, depth 1,000 feet, in the part of the Basin known as a valley fill. Confident that the well would furnish pure water, Mr. Fleck installed his pumping plant and tanks.

"The first pumping demonstrated that the water had a peculiar odor, but as many wells in the section have a similar smell, Mr. Fleck did not hesitate to turn the stock in to drink. In a very short time three of them were dead. A post mortem revealed every symptom of poisoning from sulphureted hydrogen gas. The stock gates were closed and an investigation begun. The rancher sent a sample of the water to an El Paso chemist, who, after examination, pronounced the water unfit for use and advised plugging up or blowing out the well. A Las Cruces physician gave the same advice.

"Baffled elsewhere, with $6,000 expended for a worthless well, and up against it for water for his stock. Mr. Fleck remembered that the New Mexico Agricultural College maintains a staff of experts whose services are always at the disposal of the people of the State. He sent a sample of the well water to Dr. Hare, who was busy on other experiments, and turned the problem over to one of his seniors, Homer Powers. Mr. Powers asked for a week in which to make tests. His laboratory labors were rewarded within a few days. He found that by a process of purification, simple and not costly, the water could be cleared completely of the poisonous gas and made entirely palatable. The purification was done by aeration and filtering through charcoal. It was found that the water ,when first pumped, was perfectly black. The charcoal filter removed practically all the color and absorbed some of the gas.

"A final test showed that by using the filter and letting the water stand in open tanks 36 hours, it was entirely safe for stock purposes. His experiments completed, Mr. Powers secured permission from Dr. George E. Ladd, President of the Agricultural College, who had watched the tests with interest, and went to the Fleck ranch and installed a simple filtering apparatus. A 30,000 gallon tank was filled with water from the abandoned well and in 36 hours the water was declared perfectly harmless by the young chemist, who told Mr. Fleck to turn in the cattle and let them drink. Mr. Fleck was doubtful. To convince him, Powers took a big drink of the water himself. Convinced, the stockraiser opened the gates and let in the cattle which had been crowding around for hours, waiting.

"Delighted with the purification of the water, Mr. Fleck offered to pay Powers any fee that he would name. Powers declined any fee, saying that he owed entire credit for the work to the Agricultural College, where he had obtained his training."

The above newspaper article which, with the exception of a few unimportant details, is entirely correct, failed to state that the owner of the well insisted that Mr. Powers accept a good hat, simply as a token of his great appreciation; which was the only reward, of a material nature, received for the $6,000 service performed.

The article also emphasizes the importance of a practical, yet fairly broad, education; and it is hoped that incidents similar to this will do much to convince the people of the State that the funds appropriated for the use of the New Mexico College of Agriculture and Mechanic Arts are well invested.

## THE BOTTOMLESS STEEL TANK

For the purpose of storing small quantities of water for irrigation and for the watering of stock, one of the simplest and most easily constructed types of tanks is known as the Bottomless Steel Tank, a patent for the same having been granted in January, 1905. This tank is delivered to the customer in a "knocked down" condition, including packing, bolts with nuts, wrench, etc. Plates of steel or pure iron are used. These plates are from two and a half to five feet wide by ten to twelve feet long and vary in thickness from one-eighth to three-sixteenths inch. The plates are ordinarily nested and crated in amounts which can be easily handled and are

generally semi-curved to the radius of tank it is desired to install.

In installing these tanks the practice is to select a spot which commands the high ground and to which the water may be readily pumped either by windmill or by gasoline or oil engine. In this way the maximum amount of land may be irrigated and good drainage is had in case the tank is to be used for stock purposes. A stake is driven in the center of the space to be occupied. Then one end of a cord is looped over this stake and the other end attached to a sharpened stake. The length of the cord used is equal to the radius which will give the desired diameter of tank. A circle is struck marking the location for a trench. This trench should be dug on the center line of the circle thus drawn and should be about seven inches in depth, keeping the bottom of the trench as nearly level as possible.

The plates come already punched for bolting together and short bolts with nuts are furnished with each set of plates. To start the erection of the tank, two plates are set on edge in the trench and end to end. Bolts are placed in the top and bottom holes in such a manner that the nuts will come on the inside of the tank. The nuts are then started and a string of marlin placed between the plates on the inside. The remaining bolts are then placed and all are tightened up as tightly as the threads will allow. This process is continued around the tank until all plates are set. All joints are then carefully painted with a good coating of waterproofing paint and also wherever the plates have been chipped or the paint has been rubbed off. If clay is available it is well to fill the trench on both sides, puddling the clay in place so as to make the tank as water tight as possible. If the tank is placed on sandy soil and no clay is available it is well to place a two- or three-inch layer of concrete in the bottom of the tank after the same has been carefully leveled. After the concrete has settled, set and had time to crack, a good coating of hot tar or other waterproofing material should be placed over the concrete to seal up any possible leaks in the tank. In placing such preparations over concrete it is imperative that the concrete be perfectly dry or steam will be formed as the hot preparation is applied and it will not adhere to the concrete.

Tanks of this character can be made in almost any size and are often used for irrigation purposes to store small quantities of water and make same available in larger quantities. A tank fifty feet in diameter and five feet high would cost about $380 for the steel plates. Such a tank would hold approximately 63,640 gallons or 8,485 cubic feet. The steel would weigh about 5,600 pounds. A tank ninety-three feet in diameter would have a circumference of about 295 feet and would require thirty plates, five feet wide, ten feet long and eleven-sixty-fourths of an inch thick, weighing 10,500 pounds. Such a tank would cost about $720 for the steel and would hold approximately 223,860 gallons or 29,848 cubic feet of water. A tank 113 feet in diameter would take thirty plates, three-sixteenths inch thick, five feet wide and twelve feet long and would hold approximately 325,034 gallons or 43,338 cubic feet of water. Such a tank would cost approximately $945 for the steel plates.

In maintaining tanks of this character, care should be taken to keep corrosion of the metal down to a minimum. This can best be accomplished by using hot tar or other water-proofing and placing a coat of same, once or twice during each year or as often as the need may require. With reasonable care such tanks should last an indefinite length of time, especially if made of pure iron, as can now be purchased on the market.

F. L. Bixby,
Irrigation Engineer.

# Horticultural Department

## LATE AND EARLY BLOOMING VARIETIES OF FRUIT TREES.

Every spring throughout the Southwest there is a large amount of damage done to fruit plantations by the late spring frosts, which come after the trees have bloomed. While practically all of our different varieties of fruits are more or less subject to spring frost injury, there are some varieties that are safer than others. This is because they bloom later in the spring.

As a general rule the earliest blooming fruit trees may be found among the apricots, peaches, almonds and Japanese plums. The Japanese plums bloom much too early to be dependable as an orchard fruit in New Mexico. Many people plant varieties of Japanese plums because they have been represented to them as being very fine fruit. While this is true as far as the fruit goes, they bloom too early in the spring to be of much value as an orchard fruit and should not be planted.

In the case of the native or American plums there are a number of them that have been found to be late bloomers, much more so than the Japanese plums. Some of these are the Wild Goose, Wayland, Omaha and Golden Beauty.

The European group of plums are the surer bearers in New Mexico. These, as a rule, bloom as late, and some of them later, than the apples. A good list of late blooming European plums are the Jefferson, Coe's Golden Drop, Imperial Gage, Pond s Seedling, German prune, Yellow Egg and Italian prune.

In the peaches, it has been found that, as a rule, the early ripening varieties bloom later than the late ripening peaches, and for this reason the early ripening peaches are surer bearers than the late ripening varieties. In the planting of peaches this feature should be given consideration in the selection of varieties. For example, the Elberta peach is one of the poorest bearers, because it is one of the earliest bloomers in the spring.

It fails to produce a full crop oftener than almost any other commercial variety. On the other hand, such varieties as the Alexander and Hynes' Surprise, which ripen about thirty days earlier than the Elberta, bloom from ten to fifteen days later and consequently are surer bearers.

Most of the apricot varieties are early bloomers. A few of them are found to bloom at about the same time as the Elberta peach. It is very seldom that varieties of the apricot produce what is considered a full commercial crop, simply because they are killed by the spring frosts. During recent years some of the nurserymen have been advertising the Tilton apricot, which is supposed to be a late blooming variety. This variety is now being tested under New Mexico conditions and it is hoped that it will prove to be a fairly safe apricot.

The cherries, as a rule, are late blooming and are pretty sure bearers. Many of the varieties bloom as late, and some of them later, than the apples. Some of the late blooming sour cherries are the Early Richmond, Montmorency, English Morello and Ostheim. Many of the sweet cherries are also late bloomers, but they are not so well adapted to New Mexico conditions as the sour varieties.

The pears vary somewhat in their blooming period. Some varieties are early bloomers, while others are late bloomers. In the selection of varieties this matter should be considered. The Le Conte, Kieffer, Hybrid Kieffer and Vermont Beauty are among the earlier blooming varieties, while the D'Anjou, Bartlett, Winter Nelis, Winter Bartlett and Duchess are among the later bloomers. In the case of the pear the blooming of the varieties is also of importance from the cross-pollination feature. For best results in cross pollination, the varieties should bloom at about the same time.

The apples bloom late. While there is not very much difference between the varieties, the Red June, Early Harvest and Yellow Transparent are slightly earlier in blooming than the Jonathan, Belleflower and King David. The Winesap and Mammoth Black Twig are a little later in blooming than the Jonathan, while the Arkansas Black and Rome Beauty are still later. These two varieties are the latest blooming apples that have been thoroughly tested.

The question of the time of blooming of any variety is of considerable importance in the growing of fruit in the State and it should be given more attention than most of the people usually give it. There are too many trees of the early blooming varieties of fruit planted.

Fabian Garcia.

## RETARDING EARLY BLOOMING.

Due to the fact that many varieties of fruit trees bloom early in the spring and are liable to be killed by the spring frosts, the question of retarding their blooming is one of the utmost importance. Unfortunately there has been no very practical method devised for retarding the blooming of the trees.

Experiments have been conducted at the New Mexico Station as well as by some of the Eastern experiment stations, with the white washing of the trees to retard their blooming in the spring. The principle involved in this method is that the white surface will reflect the heat more than will the dark surface, and if the heat is reflected it will not be absorbed by the tissues of the plant and the temperature of the sap will thus be kept down. The results of these experiments, on the whole, have not shown that the trees can be retarded a long enough period by this method to give it any practical value. The retardation of the blooming for one or two days doesn't amount to very much.

Another method that has been tried is the complete covering of the plant. This is practical with low growing plants that may be completely covered over either with some kind of trash or earth. It is not, however, a very practical method to use in the case of fruit trees. This method is used with some satisfaction with strawberries, as these plants can be thoroughly mulched over and thus protected from cold and from the spring frosts.

Retarding the activity of the roots of the plants is often thought to be of importance in the development of the flower buds in the spring. Frequently it is thought that if the roots are kept very dry during the winter and spring, or if they are kept in frozen soil, they will not be active and consequently the buds of the tree will also remain dormant longer. From data obtained from tests made, it seems that the activity of the branches or buds of the tree is not dependent to any large extent upon the condition of the roots of the plant in the spring; that the opening of the fruit buds depends practically altogether upon the temperature of the air surrounding the plant. If the temperature of the air is warm enough and stays in that condition for some time, the buds on the tree will begin to grow and open, regardless of the condition of the roots. This can be tested by any one by bringing into the house a branch of the peach, plum or apricot in the spring and putting it in a glass of water where it is warm. In a few days the buds on this branch will blossom out. To show that the activity of the buds of the tree in the spring does not depend altogether upon the condition of the roots for their growth, an experiment can be tried by peeling the bark off of the tree all around in the spring. The buds will open out as though nothing had been done to the tree and they will continue to develop for a while until all of the stored up plant food in the cells at the base of the bud is exhausted. Thus it is seen that the development of the buds in the spring is not dependent upon the activity of the root. and for that reason any treatment that may be followed in trying to retard the blooming period by mulching the soil, keeping it dry or frozen or any similar method, will be of no practical value.

## PREVENTION OF COTTON ON COTTONWOODS.

Many inquiries are being received at the Experiment Station in regard to a practical method of getting rid of the cotton produced by cottonwood trees. The bearing cottonwood trees are a nuisance during the time that the cotton is shedding off in the summer. Up to the present time there is no very satisfactory and practical way of getting rid of the cotton on the shade trees.

The cottonwood tree belongs to what are known as the dioecious plants; that is to say, plants which have staminate flowers on one tree and pistillate flowers on the other. In the planting of seedling cottonwood trees just as many pistillate as staminate trees are liable to be planted.

The best way to get rid of the cotton bearing tree would be to plant the staminate trees. Of course, it is impossible to tell which are the pistillate and which are the staminate seedlings in the spring when the trees are planted. In order to be able to tell this the trees must be propagated from cuttings from staminate trees. In many localities where conditions are favorable, large cuttings two to four feet long may be taken from the non-bearing trees and planted. If a large number of non-bearing trees are desired it would be better to make cuttings in the winter and start them in a nursery row and the next year they can be planted wherever desired.

# Engineering Extension Work

## ENGINEERING SERVICE TO THE FARMER.

With the starting of a monthly periodical by the Extension Division of the College it is the purpose of the Engineering School to supply regular contributions of interest and practical value to the citizens of this State. These articles will be on problems connected with agriculture where practical engineering knowledge is of assistance.

In addition to this, the citizen is urged to write us for information when confronted by problems of an engineering nature. Our faculty are practical men and would be glad to help you at any time. Questions on the use of concrete, selection and operation of gas engines, house lighting, etc., come under our line of service. Many of the questions confronting the farmer require engineering investigation for solution and it is hoped that in the near future funds will be available at this institution whereby we may help in this very important work. Such questions as the use of low-grade fuel oils for farm engines, the testing and use of New Mexico building materials, and problems of drainage in irrigation districts are among these. Through student thesis work and especial effort on the part of the instructing staff we can now attempt some of the shorter investigations.

A letter addressed to the Dean of Engineering, State College, N. M., will be referred to the proper department for answer and receive prompt attention.

A. F. Barnes,
Dean of Engineering.

## SCHOOL OF ENGINEERING.

At the New Mexico State College, Agriculture and Mechanic Arts stand upon an absolute equality. While the institution recognizes the need of trained agriculturists, it also appreciates the need of trained engineers, and to an equal degree devotes its energies to fitting the young men of New Mexico for a life work in the various branches of engineering science.

In the words of Senator Morrill, the American statesman who was the author of the Land Grant College Act of 1862: "These colleges were not established or endowed for the sole purpose of teaching agriculture. Their object is to give an opportunity for those engaged in industrial pursuits to obtain some knowledge of the practical sciences related to agriculture and mechanic arts."

ORGANIZATION: Ever since the founding of the institution, engineering has been taught, and in 1914 the several departments teaching this science were grouped to form a School of Engineering, at the head of which is a Dean whose especial duty it is to make this "the best Engineering School in the Southwest."

THE FACULTY: The faculty consists of six experienced engineers and teachers; graduates from our leading engineering schools and members of national engineering societies. By teachers of this grade not only is engineering theory taught, but in addition practice is constantly emphasized.

BUILDINGS: A modern three-story fire-proof building for use by the Engineering departments was completed during the summer of 1913, at a cost of $21,000. This building, together with the old Engineering Building, provides ample space for the various shops, laboratories, and lecture, class, and drawing rooms.

EQUIPMENT: In the point of equipment alone this school excels all others in the Southwest. At the present time machinery, engines and scientific apparatus for teaching engineering represent an investment of over $40,000. During the past year, through complete overhauling and renewal of apparatus in the shops and laboratories, this equipment has been doubled in usefulness. A yearly budget is provided not only to keep this equipment in good condition but to afford constant addition.

COURSES: Complete courses of college grade are provided in CIVIL, MECHANICAL, ELECTRICAL and IRRIGATINON Engineering. In addition to these practical courses are offered in automobile practice, blacksmithing, carpentry and gas engine and machine shop practice. These one- and two-year courses meet the needs of the young men who may not be able to pass the college entrance requirements.

The course of study first aims to give a thorough grounding in mathematics and the physical sciences related to engineering with the application of these subjects to engineering; second, allows a considerable amount of specialization and practice along the several lines of study offered by the school.

IRRIGATION ENGINEERING: This most important branch of engineering for the development of the Southwest is emphasized by one of the most complete courses in the entire West. The instructor, a graduate of America's leading school of Irrigation (University of California), devotes his entire time to this subject. This course provides high-grade men for the carrying on of this great work.

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## Reasons for Studying Engineering at the N. M. College of A. and M. A.

1. The demand for well trained engineers was never greater than today.

2. Immediate employment is certain and chances for advancement excellent.

3. Best equipped Engineering School in the Southwest.

4. Faculty of the highest grade; engineers, thoroughly educated, experienced in both teaching and practice.

5. Located in the Mesilla Valley, close to El Paso, furnishes opportunity for observation of all kinds of engineering development.

6. Engineering students are loyal and enthusiastic, as is shown by live student Engineers' Club.

7. Our engineering graduates are making good.

8. Its support both by the Federal and State governments makes education at lowest cost.

9. Increased activity in agriculture in the Southwest demands engineering

for its development, illustrated by the Elephant Butte project. These engineers should understand Southwestern conditions, which our courses emphasize.

10. Mining in New Mexico and Arizona demands electrical and mechanical engineers.

11. Mexico, in an unsettled condition, will need engineers who understand its people to upbuild it. We are the logical supply.

12. MOST OF ALL. Help build your home institution. It is for the young men of the Southwest and offers them not only the educational advantages of the Eastern school, but will preserve in them the spirit of the great West.

ADMISSION: Fifteen units of high school work to college courses, including Algebra, Solid and Plane Geometry. Our preparatory department offers excellent opportunity to make up any deficiencies.

INFORMATION: Address "Dean of Engineering, State College, New Mexico," for catalogue showing details of courses, or other information. He will be glad to correspond with you concerning your case.

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# Animal Husbandry Department

## STEER FEEDING.

In steer feeding there are several important things which should be carefully considered before undertaking the work of feeding in anything more than an experimental way. The first of these is naturally the margin, that is, the difference between the cost price of the feeders and the selling price of the finished steers. This is, of course, very closely related to the cost of feed. Ordinarily the margin should be from $1 to $2 per hundredweight. It should be at least enough to give a profit on the original weight of the steers, for it is not likely that the selling price will be greater than the cost of the gains. The cost of the gains will depend on the prices of the feeds and character of the feeders; and it may be added that the man who is in charge of the steers and carries on the actual feeding operations is a very important factor.

In the Corn Belt it has been found that it requires 800 pounds of corn and 500 pounds of roughage to make 100 pounds of gain. Estimating alfalfa hay at $10 and shelled corn at $30 per ton, it would make the gains cost $14.50 per hundredweight, but with cowpea hay at $8 per ton and ground milo heads at $10 per ton the cost of the gains would be more reasonable: $5.00 per hundredweight. These prices are about what exist today in different parts of New Mexico, the former in the irrigated valleys and the latter in the dry farming districts. In one locality the feeding could likely be done at a profit, while in the other it would be at a loss unless the margin was greater than that shown by the general markets. Feeders usually consider an average gain of two pounds per head daily, for a period of 120 days, a good gain. It is likely to be more in the fore part of the period and less towards the end. When concentrates are as high as they usually are in New Mexico, more economical gains are made on a medium concentrate ration and a larger amount of roughage. This would not give a product so well finished, but would satisfy the local markets, since the home demand is not very exacting.

As to the kind of steers to feed, good grades of any of the improved breeds feed very well and as a rule, either yearlings or twos give very good results, but the gains on the two-year-olds will cost a little more than on the yearlings. On our New Mexico farms there is generally a large amount of pasture and coarse feed that have little market value. The use of these would tend to reduce the cost of feeding, that is, make it more profitable. It will be seen from the above that profit depends on both the gains and the margin; that is, on the prices of feeds and the prices at which steers are bought and sold. The feed consumed often costs more than the value of the gains secured, in which case a margin is necessary in order to break even on the feeding proposition, and this may vary, as indicated above, from fifty cents to $2 or more per hundred pounds. It is only reasonable that the feeder should have a profit on the original weight of the steers because of the improved quality that comes from the fattening process.

For winter feeding the investigation at the Missouri Experiment Stations at the Missouri Experiment Staessary for the feeders to have a margin of at least $1.50 per hundredweight in order to break even. The Indiana Station finds that under present conditions it costs cattlemen in that State from $1 to $2 more per hundredweight for gains than the market price of the finished product, when feeding for a period of five or six months through the winter. When the grain ration is lessened and a larger proportion of roughage is fed it lengthens the feeding period; that is, it requires a longer time to give the steers the finish required by the market. When a highly concentrated ration is used the steers give the desired finish in a much shorter time. The finish, of course, depends on the market. A minimum grain ration with alfalfa hay will give a very satisfactory quality of beef for a market that is not too exacting as to finer finish and better appearance of the steers and beef. In general it may be said that a 1,000-pound steer requires a daily ration of ten pounds alfalfa hay or other roughage and eighteen pounds of corn or its equivalent. This would be considered a good ration for a feeding period of 120 days. The quantity of corn used in the beginning would, of course, be smaller and it would be gradually increased to considerably more than eighteen pounds at the finish . A minimum concentrate ration for the same class of steers may be taken as twenty-five pounds of coarse feed and six pounds of corn or other concentrate.

At the New Mexico Experiment Station, when feeding a medium grain ration with alfalfa it required 908 pounds of alfalfa hay and 559 pounds concentrate to produce 100 pounds of gain. The daily ration averaged seventeen pounds alfalfa hay and ten pounds concentrate. At the time of this experiment the gains cost $4.35 per hundredweight, figuring alfalfa at $7 per ton and wheat at $20. Gains were made on the above ration at the average rate of 1.86 pound per head per day on 560-pound steers for a period of 118 days.

As long as present conditions exist, prospective feeders should make a very careful study of the subject before taking up the work.

Luther Foster.

# Boys' and Girls' Club Work

W. T. CONWAY, STATE AGENT.

## BOYS' AND GIRLS' CLUBS.

Under the above heading, the following editorial recently appeared in the "Albuquerque Morning Journal:"

"The wonders that may be wrought by government-supported economics are not all to be found in Germany. The agricultural colleges of the United States have also done some noteworthy work in this line. Not the least is the conserving of the interest of rural childhood in the business of agriculture.

"From duly watching his father fumble with the big farm, the farm boy has been waked to the fact that he himself can make a little farm pay better than his father's big one. His sister has been shown how with her tomato garden she can do what her mother struggled to do and couldn't —buy a dress without begging father for the money.

"This movement has been a veritable emancipation proclamation for the boys and girls of the country. Pig clubs, corn clubs and tomato clubs have enrolled in the southern states more than 110,000 farm children and in the north more than 150,000.

"In the south particularly, the pig club has flourished. The pig is the Moses that has led these children into the promised land. For example, in eleven counties of Georgia, where these pig clubs have been formed, eleven million pounds of cured pork was produced last year.

"Yields of corn, undreamed of a few years ago, have come from the boys' farm acres. Farm profits per acre have rarely exceeded those produced by the girls' tomato gardens. Boys have proved that they can buy an acre of ground with the crop produced on an acre, and they are buying land.

"The greater part of the added farm products produced by these clubs is saved from waste. The boys and girls are doing just this much more work than they did formerly. The land they cultivate is not missed in the total area farmed by adults.

"But the great redemption through this movement is the social interest awakened, the bringing together of rural people in friendly relations and helpful competition, and the better understanding by men of the soil that supports them.

"What has been, and is being, accomplished in the southern and northern states by the boys' and girls' clubs is becoming operative, under the energetic administration of the New Mexico Agricultural College, in this state, and is bound, in time, to accomplish as much per unit as anywhere else in the United States. The movement has a perfectly practical foundation. It will not decay."

## PREMIUMS WORTH WORKING FOR

The editors and publishers of good farm papers are quick to see the opportunity of helping and encouraging Boys' and Girls' Club Work. Last year "The Country Gentleman" made a splendid offer and this year "The Farming Business," published by the W. D. Boyce Company of Chicago, has come forward with another generous offer. Their offer is to the 33 Northern, Eastern and Western States. New Mexico is in the latter group.

Their first offer is a $4000 Club House to the Club making the highest average on all points in the "bases of awards" of the several projects. Every Club of five members or more in the 33 States will have the privilege of competing for this house. New Mexico's boys and girls are in the game.

This Club House must be built where it can be used by the public and for whatever legitimate purposes the winning club may designate. The house will be equipped with its own lighting system, a moving picture machine and water works, if a water plant is near by. It will be a beauty. Do the Club Leaders and members think such a prize is worth striving for?

In addition to the Club House premium, ten scholarships to the Farmers' Week will be given, which provide for all expenses, much the same as was given to the boys and girls last fall at the State Encampment. The ten winners will be selected from the champion boys and girls of the State.

Not only these good things are coming to the boys and girls who achieve success in their Club work, but about 100 solid gold Club pins will be distributed among the county winners. These will be awarded when final reports are all in.

If Leaders and Club members think it worth while to work for these prizes, have your secretaries write the W. D. Boyce Company, 500-514 N. Dearborn St., Chicago, for full particulars of how the Clubs become eligible to compete for the prizes.

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## THE FOUR POINT BASIS OF AWARD.

Many people seem to think that the Club work consists of growing or making something for a contest only. This is simply one feature or part of the work required. The exhibit feature of the Club work is a good one, but it is not considered the most important one. The Club work goes deeper into the principles of education than simply preparing something for a show. We want to know not only that the member produces something but how he produces it and what it cost in time, in labor and money. The biggest question is, "did it pay?" and "how much?" Hence the four-point basis of award.

These points differ slightly in the different projects, but the principle is the same. In our Field Crops we have

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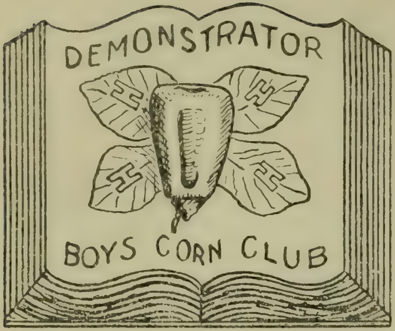
| Yield per acre | 30 |
| Cost of production | 30 |
| Sample exhibited | 20 |
| Records and story | 20 |

It is the highest average on all these points that wins. A high yield is desirable, provided it can be obtained at a reasonable cost of production. The thing we want is a net profit on our investment. The greater the net profit, the greater the achievement.

In order to find the net profit on a project, it is required of each member working out a project that he shall keep a record of all expenditures—rent, fertilizer, labor, seed, etc. Not only is the record itself important, but how it is kept may be 20 points in the Club worker's favor. The Club member makes the project his business and uses business methods in working it out. How else can we make business-farmers of the boys better than by actual practice?

The project is never considered complete until the records and story are in and an exhibit of the products made in some contest. There is a reward for every Club member who completes his project, no matter how small his net profit may be. Circumstances may show that he has achieved success even when his production comes at a loss. This member will also be rewarded.

The reward is the Club emblem—the 4-H design that represents the four-square education of head, heart, hand and health. This is awarded every member for his achievement.



But the greatest reward is the net profit and the knowledge acquired in making it. No; there is something greater still, and that is the desire for leadership and the ability to accomplish great things. This makes for manhood—a natural consequence of Club work earnestly and faithfully wrought out.

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### MONTHLY REPORTS.

We shall read with the greatest interest the monthly reports sent in by the secretaries of our Clubs. We hope no Local Leader will slight this matter of having the secretary make out this report at the monthly meeting. If they have no regular time of meeting we want the report made out anyway, giving us some information of the activities of the Club.

Some questions on the report blanks do not apply at all stages of the work. Pass these by, but make a report, if it is only a line or two in the back of the blank, stating what the members are doing. Active members we want this year, and we want to know they are really active. If any Club has neglected to make a report till now, put it off no longer. It may cause you to lose your standing, because it means a loss of interest in what you are doing. A monthly report is a part of the game. Play all the game. Play it strong and well.

### MORE THAN ONE LESSON AT A TIME.

The Clubs that are now being chartered are receiving copies of lessons one and two. Those that organize after the fifteenth of March will receive lessons one, two and three all at the same time. This need not scare any member, for lesson one can not all be worked out till the last report is in the office this fall. Some of our Clubs have started on lesson two or worked it out before they received it. We want to get our class work together. Each lesson has its season and we want the members to get it in season, so it will do the most good.

### LIVE STOCK CLUBS, LISTEN.

The boys and girls who are in the chicken raising contest should set their hens as soon as possible, then get their coops and pens ready for the biddies. The early hatched pullets are the best winter layers and that is what we are looking forward to. Not only that, but early friers top the market.

April first will be the last date Club members may enter the pig raising contest. Then members of the Pig Club had better select their pigs, weigh them and enter these items in their records by the first. It is not our intention to debar any one who wants to get into the Pig Club work, but we must abide by the rules of the contest.

Our Club Lesson I, which is on "Keeping Records," has become of interest outside the State. It was published in full recently in "The Farming Business" on the page of "farmers for the future," and reprinted by another State Leader of Club Work for his boys and girls.

We mention this not to boast of our literature, but to impress upon our Club members and Leaders the importance of what that lesson teaches.

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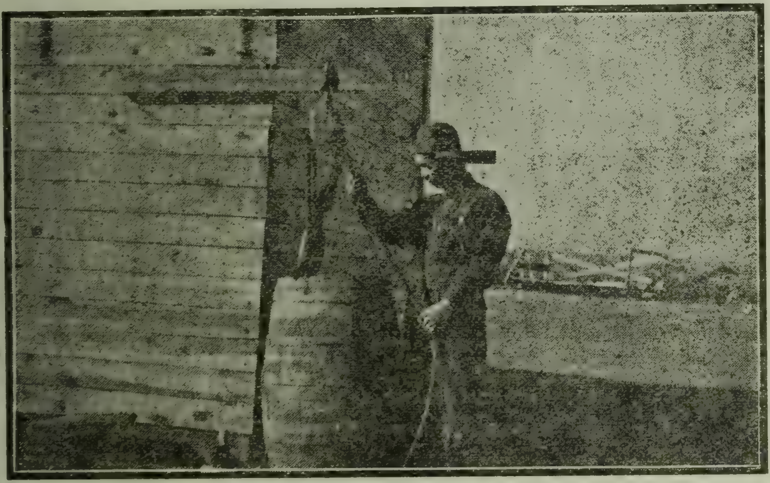
# THE NEW MEXICO FARM COURIER

VOL. IV. APRIL, 1916. NO. 5



A member of one of the New Mexico Boys' and Girls' Clubs Treating Wheat for Smut—An Inexpensive but Very Important Farm Practice

Published Monthly by The
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State College, N. M.

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# THE NEW MEXICO FARM COURIER

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GEORGE E. LADD...President of College
FABIAN GARCIA......Director of Experiment Station
A. C. COOLEY......Director of Extension

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## CHANGE OF NAME.

Beginning with this issue, "The College Courier" will be published under the name of "The New Mexico Farm Courier." The general policy of the publication will be similar to what it has been in the past, it being devoted principally to promoting the various phases of the agricultural and home economics interests of the State. As in the past, considerable space will be devoted to the boys' and girls' club work, as this work will no doubt mean much to the future development of the State.

The "Courier" will be sent free to any resident of the State. As previously mentioned, an index of the principal articles is to be published within the next year; and if the various numbers are filed away when done with, the articles on the different subjects can be readily referred to.

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## THE COUNTY AGENT.

The following editorial recently appeared in a Chicago livestock journal:

"The county agent has come to stay and every year the farmers welcome him in many sections because they know that his assistance is of value.

"The idea originated in Belgium, but every modern country has its county agent now.

"His duty covers a wide field and farmers everywhere have benefited by his visits and advice.

"He does not work out all the rural problems alone, but by cooperation with the farmers themselves is able to do his best work.

"If you have a county agent he needs your help as well as you need him. Success will come more rapidly by cooperation.

"Some farmers have said that they do not need a county agent. Still, there are 500 counties in the United States that have adopted the system.

"This alone is proof enough that the county agent must be doing considerable good.

"Undoubtedly the success of the system is due largely to the appointment of experienced men as county agents and, above all, they must have agricultural knowledge which they can impart to others in an intelligent manner.

"The county agent will go to any farm and help the individual farmer or he will address a body of farmers publicly. He is subject to call at any time and never hesitates to oblige.

"He knows about live stock as well as about soils; in fact, is able to assist in any kind of work connected with the farm."

# AVOID USE OF LIGHT SEED OATS

The mistake of planting an inferior quality of seed oats is more common than with other seed. This is because the imperfections of oat seed are not always easily detected by superficial examination. The hull which covers the kernel is comparable with the "kimona" worn by housewives a few years ago. It covers a multitude of sins which result in poor stands, weak plants, and low yields.

Too many farmers are in the habit of planting oats just as they come from the thresher. This method usually means the planting of a large quantity of inferior seed, and consequently the crop produced is lowered in quality.

We often hear farmers speak of their seed "running out," and their usual remedy is the importation of high priced seed from some seed company or some other more careful farmer. There is really no such thing as seed 'running out," in so far as the seed itself is concerned. This condition depends entirely upon the farmer. If he is one who just lets nature take her course w'thout trying to check her bad habits, then you can depend upon it that his seed will deteriorate rapidly in quality. He will have to buy seed of his neighbor or else send away for some high-priced seed. But if he happens to be a real farmer who takes pleasure in trying to make the best better, you will find that his seed seldom deteriorates, but instead that it is improving.

Proper care in the selection and improvement of seed is a very important factor in successful farming. It does not take any more time and effort to care for a good field than it does for a poor one. But the difference in profits is equal to the difference between success and failure.

The oats produced in Colfax county last year were under the average weight of oats grown other years. This means that a large percentage of the kernels are too light to be used for seed. Light kernels are low in vitality and when planted either do not germinate or else produce weak plants.

A good fanning mill is a very profitable investment for any farmer. By running seed oats through a fanning mill twice, most of the light kernels will be fanned out and the remaining seed will assure a better stand and more vigorous plants. Nearly all foreign material and weed seed will be removed at the same time.

Keep this in mind. Good seed is of prime importance to successful farming. Secure high-grade pure seed to begin with. Keep it pure. Improve it by selection and by mechanical means, if possible. Keep it free from smut by means of the formalin treatment. Before planting seed make a germination test to determine the per cent of kernels which will grow.

V. L. MARTINEAU,
Colfax County Agricultur'st, Agent
U. S. Department of Agriculture.

# FARMERS ERADICATING GRASSHOPPERS

During November and December of last year almost every farmer living in the irrigated districts of Maxwell, French, Miami and Springer was visited and asked to cooperate in the eradication of grasshoppers. The destroying of eggs by discing or harrowing ditch banks, field borders, all waste places and alfalfa fields was advocated as a means of eradication.

A meeting was called in each of the infested districts and the habits of the grasshopper were explained in detail and methods of control were suggested. Personal visits were then made by Mr. D. J. Caffrey and myself to as many farms as possible in order to make sure that the plan was clear to all farmers and land owners. A total of 160 farms were visited and 137 farmers were interviewed and signed a petition agreeing to cooperate by each carrying out the work within his own farm.

The extremely dry weather which has prevailed has made the ground so hard that the work has been difficult to carry out. However, during the past month a great many farmers have been busy discing and harrowing and there is still time to do a great deal of good work if others will get at it.

During November and December the farmers of the French tract burned off a large part of the weeds growing along ditch banks and in the waste places. By doing this the ditch banks were cleared for discing and a large number of other destructive insects were destroyed.

Farmers who expect to destroy grasshoper eggs by discing should do this work right away, as the eggs must be exposed to drying and freezing conditions for some time in order for the work to be effective.

V. L. MARTINEAU,
Colfax County Agriculturist.

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# Department of Biology

## The Striped and the Twelve-spotted Cucumber Beetles.

The following account deals with two species of small beetles that are commonly injurious in spring to melons, cucumbers, and other cucurbits, or plants of the melon family.

The adult striped cucumber-beetles (Fig. 1a), are a little less than a quarter of an inch long and black-and-yellow-striped. They hibernate whereever they find shelter near their last food supply in fall,— under rubbish or old plants, along weedy edges of the garden, or in the ground under vegetation. They emerge early in spring and feed upon a variety of plants. When the melons, cucumbers, etc., come up, the beetles attack them, often devouring the plants entirely or cutting them off just above the ground. They do not pair until after feeding upon such plants. Then eggs, to the number of about 100 in a period of a month, are dropped singly into cracks in the soil near the bases of the plants.

The larvae (Fig. 1b), hatching from these eggs in a few days, when full grown are worm-like grubs about 3-10 of an inch long, white with brown heads. They bore into the roots of the cucurbits, or sometimes, in summer, into melons lying on the ground. As a rule the injury from the larvae is slight as compared to that from the adults in spring.

About three weeks after the larvae hatch they change to the pupae (Fig. 1) in the ground and about two weeks later a new generation of the beetles emerge. There are likely at least two generations a year here.

**Control.** Cleaning up old vines as soon as the crops are off and seeing to it that no rubbish is left in the garden for winter hiding places will keep the adults from hibernating in the garden and reduce greatly the likelihood of trouble from them in the spring.

Rotation of the crops will help very much, also.

Often more seed than is necessary is planted so there will be enough plants left even after the beetles may have eaten some. Any extra ones may be thinned out.

For a few plants in a small garden the cheapest method is to provide protecting conical covers of screen wire and place them over the hills to keep the beetles away until the danger is past. Such covers should be saved from year to year.

For larger fields a combination of trap crop and spraying or dusting succeeds. A week or so before planting the main crop, plant a few rows of early squash around and through the field. Then plant a few more when the main crop is planted. The beetles will congregate on the squash and may be killed there, outright, with kerosene. This trap will serve often to attract the big brown squash bugs, also. The main crop should be protected when it comes up by spraying or dusting. The trap crop should be unprotected. About the best protective treatment (for the young plants) is to dust them all over, upper and under sides of leaves, with powdered arsenate of lead. The powder may be diluted with flour, hydrated lime, or any very fine substance that will not injure the plants, using one part of the arsenate of lead to four parts of the diluent. The arsenate of lead may be used as a spray at the rate of one ounce to two gallons of water.

The severity of the infestation and the size of the field will indicate what methods will be best to use.

(Fig. 1.—The Striped Cucumber-Beetle (Diabrotica vittata Fab.), a, beetle; b, larva; c, pupa. All much enlarged. (After Chittenden—Cir. 31, B. E., U. S. D. A.)

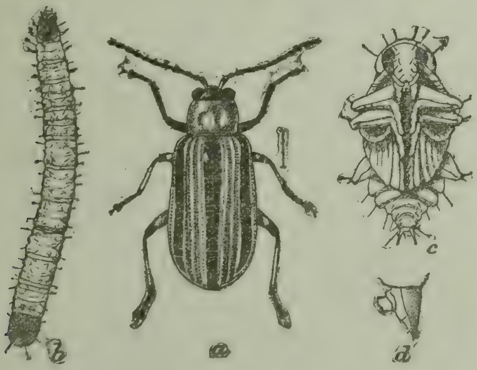

FIG. 1

The adult twelve-spotted cucumber beetle (Fig. 2a), is often found associated with the striped species. It is slightly larger, of a bright green color marked with twelve black spots.

The life history of this species is very similar to that of the above. The habits differ in some respects, however. This species in the adult form feeds on a very large list of plants. The larvae (Fig. 2c) are particularly injurious to the roots and "buds" of very young corn. Beans are often injured in similar manner. The larvae may get so numerous in the roots of melons and other cucurbits that the roots may be riddled and the plants killed. This injury is likely to be worse where corn has preceded the cucurbit crop. Corn may harbor many more of the larvae and still show no injury. Wheat, rye, millet, and Johnson grass are known to harbor the larvae also.

**Control.** Control measures used for the first species control this species, also, in great measure. In addition, it should be borne in mind in the rotation of crops that cucurbits should not follow other crops — corn especially — that harbor the pest, and that corn should not follow corn if injury is probable.

(Fig. 2.—The Twelve-spotted Cucumber-Beetle (Diabrotica 12-punctata Oliv.) a, adult beetle; b, egg; c, larva; e, work of larva at base of young corn plant; f, pupa. All, except e, much enlarged. (Riley and Chittenden, Cir. 59, B. E., U. S. D. A.)

D. E. MERRILL, Biologist.

The debating team of the New Mexico College of Agriculture and Mechanic Arts recently defeated the New Mexico University, in the annual debate held with that institution. The question was, "Resolved; That State and Federal Legislation Providing for Compulsory Arbitration Is Essential to the Adjustment of Disputes Between Employers and Employees"; the College team upholding the negative side of the question.

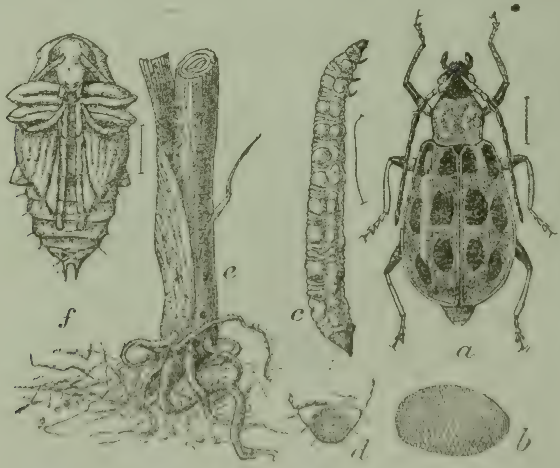

FIG. 2.

# Engineering Extension Work

## ELECTRIC STORAGE BATTERY.

There is probably no single piece of apparatus so generally used and as little understood as the electric storage battery. Nearly every automobile is equipped with a battery and the modern ranch is incomplete without its electric lighting plant, a principal part of which is the storage battery. The action of the battery is not difficult to understand.

It has been found experimentally that certain materials like zinc and carbon, zinc and copper, iron and nickel, lead and lead oxide, and many others when immersed in certain liquids called electrolytes produce a difference of electrical potential by virtue of the chemical action that takes place. Such combinations of materials then called electrodes with an electrolyte are known as an electric cell, several of which combined form a battery. The production of electric current by a cell is accompanied by a chemical change of the material forming the electrodes and the electrolyte. When this change is complete the cell is said to be exhausted or worn out, being then incapable of furnishing further current until the electrodes and electrolyte are renewed. In certain cells the chemical action which takes place consequent to the production of electric current is reversible, that is, by changing the direction of flow of the current (forcing current into the cell) the resulting chemical action converts the electrodes and electrolyte back to their original form, thus renewing the life or "charging" the cell. Such cells are called secondary or storage cells. Cells in which the chemical action is not reversible are known as primary cells; example, the common dry cell.

The term storage cell is rather a misnomer, giving one the impression that the electricity is stored in it as water or gas would be stored in a tank. This is entirely erroneous, since the action is entirely an electro-chemical one. Two types of cell or combinations of electrodes and electrolytes have been commercially perfected. These are composed respectively of electrodes of spongy lead and lead peroxide in a solution of dilute sulphuric acid and lectrodes of iron oxide and nickel hydrate in an electrolyte of potassium hydroxide. The former is known as the lead type and is perhaps more common. The latter is the new Edison battery.

In the lead battery the chemical action which takes place when current is taken from it is the conversion of the spongy lead in one plate or electrode to lead sulphate, and of the lead peroxide of the other plate to lead sulphate, the electrolyte, dilute sulphuric acid, becoming weaker as the cell is exhausted. On charge the reverse action takes place, namely the lead sulphate of both plates is converted back into lead peroxide on one and spongy lead on the other, the electrolyte becoming stronger in the meantime. Now it happens that lead sulphate in itself is not a conductor of electricity and also occupies a greater space than either the spongy lead or lead peroxide from which it is formed. Because of these facts, it is not practical to totally exhaust a lead battery. It would be very difficult to force current back through it to charge it because of the excessive amount of non-conducting lead sulphate in the electrodes. Also trouble would be caused by the swelling of the plates, causing parts of them to peel and crack off. These pieces are apt to lodge between two of the electrodes causing a short circuit or conducting path through which the cell would send current until it was completely exhausted and through which charging current would pass without charging the cell, thus practically destroying its usefulness. Even if this material thrown off did not give immediate trouble, its loss would reduce the capacity of the cell.

For successful operation a lead cell should never be discharged below a point at which its difference of potential when delivering normal rated current, as read by a voltmeter, is less than 1.8 volts; or the specific gravity of its electrolyte as determined by a hydrometer is less than 1.100. When discharged to this point, it should be recharged as quickly as possible, and never should it be allowed to set for any length of time. If this is done, what is known technically as local action will cause the cell to become further discharged and finally ruined. Another precaution quite necessary with lead batteries is always to keep the electrolyte solution above the tops of the plates. The air acts chemically upon the materials of which the plates are composed so that if this is not done the exposed parts are affected, and if long uncovered, rendered useless; thus reducing the capacity of the cell.

In the Edison battery the chemical action on discharge and charge causes the formation of different oxides of the same substances composing the electrodes , the electrolyte acting simply as a carrier of the electricity from one plate to the other. The substances formed by this action are conductors of electricity, so that unlike the lead battery, if completely discharged it can readily be charged again. Because of this fact it is also possible to leave the Edison cell in a completely discharged condition indefinitely without doing the least harm to it or reducing its capacity,—a great advantage. Its construction is also such that buckling of the plates or shedding of the active material is unknown. These characteristics make it extremely rugged and practically "foolproof." The level of the electrolyte must, however, be kept above the tops of the plates as with the lead cell.

All storage cells contain electrolyte and this diminishes in amount, due to natural evaporation and chemical dissassociation by the charging current of the water contained in it. As this loss is one of water only it is necessary when replenishing it to use only pure water. To insure its purity only distilled (condensed steam) or filtered rain water should be used. The impurities in ordinary water will soon ruin a battery, since they are left behind by evaporation and "gassing," accumulating and causing local action.

Should some of the electrolyte be spilled, it should, of course, be replaced by more of the same density as that spilled. In case this happens where no electrolyte is available, it should be replaced by pure water until such time that it can be given the required attention, which should be as soon as possible.

Further information on this or other electrical subjects will be gladly furnished by the Department of Electrical Engineering, New Mexico College of Agriculture and Mechanic Arts.

R. W. GODDARD.

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## NOTES ON FARM DITCHES.

If possible ditches should be constructed under the direction of an engineer, at least levels should be taken of the land on which the ditches are to be built. An engineer can decide as to the most economical method of construction, as to grade and size of the ditch, side slopes, whether the conduits are to be open or closed, lined or unlined. The steeper the grade the smaller may be the cross-section of the ditch, but the grade must not be so great that scouring will occur. Another factor which limits the grade of the ditch is the prevention of silt deposits. The grade should be sufficient to cause the silt in the water to be carried out on to the land. Each soil has an angle of repose or a maximum slope at which it will lie without moving downward, and it is this that determines the best side slopes to use for a ditch. The question of putting in lined ditches or closed conduits for water delivery is one largely of economy. With a porous soil, lined canals will generally be most economical in the long run, though the farmer may not feel able to construct them in the beginning. Closed conduits are advisable only for conditions of high value of water and crops produced.

Canals should be as straight as possible. All bends, rough places and obstructions lower the velocity of the water and therefore the carrying capacity of the ditch. Culverts should be built so as not to obstruct the flow of the water and should be kept clear of all weeds and trash.

It is far more economical of labor and time, and therefore money, to install wooden check gates and headgates than not. Some irrigators try to do without tnem, but this is a mistake. With them the ditch is much easier kept in repair and has a neater appearance.

The banks, sides and bottom of ditches should be kept free from weeds, rushes, moss, etc. Those in the ditch obstruct the flow far more than is generally supposed. When the canal is choked with weeds the capacity may be lowered as much as 75 per cent. A low velocity causes the plant life to thrive better. Living plants take up water and thus greatly increase the losses in the canal. Ditch banks free from weeds make the farm look 100 per cent better than those on which the weeds are so high that nothing else can be seen, as is the condition of many irrigated farms in this State. The moisture saved will, in many cases, pay the expense of keeping them down. The very best way to scatter Johnson grass and cockleburs is to allow them to go to seed on the ditch banks. The farmer will find it much to his advantage to take great care in the construction and maintenance of his ditches.

O. K. JACKSON.

# Department of Animal Husbandry

## PIG-EATING SOWS.

In answer to a recent inquiry, Professor Foster of the Animal Husbandry department, stated as follows:

"It is usually claimed that pig-eating sows have not been given a sufficiently laxative food prior to the time of farrowing, and that the proper thing to do for the last few weeks before they drop their pigs, is to give them bulky foods, and see that they get plenty of exercise. Bran and alfalfa hay or pasture make good feeds for this purpose, although the concentrate need not be made up wholly of bran, but from one-half to two-thirds of it should be bran. Where one can secure linseed meal, a small quantity of it will tend to keep the bowels open. It is also recommended that a supply of charcoal and salt be kept in the pens, accessible to the sows at all times. Corn cob charcoal is preferred.

"From the above it will be seen that the rational method is to forestall the condition, by keeping the bowels in good order. But when trouble is apprehended, a hog grower of large experience recommends feeding the sow a few days in advance about three pounds of salt pork cut in strips. Another has succeeded well by applying a solution of equal parts of tincture of aloes and asafetida, putting it on the pigs with a sponge as soon as they are dry. Mucilage should be added to this mixture, in order to make it stick for a longer time. The sows do not like the taste or smell of this solution, and let the pigs treated alone.

"During the period of farrowing, the sows should have extra attention, and if any pigs are dead they should be immediately removed; for it is believed that sometimes a sow gets the habit by eating the dead pigs of the litter."

## CARE OF THE SOW AT FARROWING TIME.

For the farmer in New Mexico who expects to raise pigs profitably this is a most important consideration, for with the admirable climate here and by using the right methods he should be able to eliminate the chance he takes of getting a small number of puny, weak pigs and instead with a little care ought easily to obtain the whole litter in a strong and healthy condition.

As the sow nears farrowing time she should be in fairly good condition. During the period of pregnancy she should have had plenty of hay (preferably fourth cut alfalfa) and enough concentrate to give the pigs ample chance for growth. Although the brood sow should not be starved at any time it is not a good plan to have her too fat when farrowing time arrives. This may be avoided by feeding a ration not too carbonaceous. Corn alone may do for fattening an animal but when fed alone to pregnant sows it not only does not supply enough protein to properly develop the growing foetus, but it also tends to make the sow too fat and clumsy, placing her at a disadvantage when the time arrives for her to pig.

A day or so before she is ready to farrow it is a good plan to shut her in the farrowing pen by herself so that she may become better accustomed to her surroundings and be more easily handled if this becomes necessary.

The ideal farrowing pen for New Mexico should be tight enough to shelter the pigs and keep out draughts and rain, but may be left open on the south side to ensure good ventilation and plenty of sunlight and to facilitate tending the sow and cleaning it. It should have boards about eight inches from the ground and standing out about the same distance from the wall on all sides of it, to keep the sow from crushing any of the pigs. On account of the mild climate it is not necessary to have much bedding, and this is a good feature, as it prevents the sow from building a deep nest in which she is more apt accidentally to mash some of the pigs. With the use of a few hurdles a runway may be made where she can get ample exercise.

She should now be fed a limited amount of concentrate containing plenty of bran to keep ner in a laxative condition. Sows that eat their pigs usually do so because of being in a feverish condition. This condition is generally due to costiveness caused by a too rich concentrate ration.

During the twenty-four hours before she farrows only a little food should be fed her, if anything at all, and the chill should be taken from her drinking water.

The breeder should make it a point to be with her when she farrows, for, although nature should be allowed to take its course, still, being present at the right time will in many cases help to save a larger litter.

Sows in normal condition usually farrow in from one to three hours and if the above precautions have been carried out, no trouble will, as a rule, be met with. However, if after a reasonable length of time they do not farrow, mechanical means must be resorted to.

When they are through they should be fed lightly, taking care to keep them in a laxative condition for a day or so and increasing the ration gradually to supply the increased flow of milk needed, by giving richer concentrate, such as ground corn, barley, wheat, kaffir, or milo maize and skim milk or buttermilk.

E. J. MAYNARD,
Assistant in Animal Husbandry.

# Department of Agronomy

## TILLAGE.

There is probably no other word in the English language that means so much to the successful farmer as does the word "tillage." It includes seed bed preparation, cultivation of the crop, and method of handling the soil during the time that elapses between the harvesting and the planting of the succeeding crop.

In the growth of a plant, whether it be a cornstalk or a peach seedling, the first step after the seed is planted is germination, that is, the putting forth of the plumule and its upward reach to the light and the development of the tiny rootlets that form the connection of the plant with the soil. This development takes place in what is commonly known as the seed bed, that is, in the first two or three inches of the surface soil.

It is not hard for one to see that in order to secure the best germination every seed that is placed in the ground must have a suitable bed in which to send its roots. If the soil is cloddy or lumpy a large number of the seed will fall on these clods and remain uncovered and germination will not take place, and as a result a poor stand will be secured. One of the reasons why more attention is not paid to seed bed preparation is that the average farmer follows the line of least resistance or figures that it will not pay; while as a matter of fact it will pay in many ways. On a well prepared seed bed one need not plant so many seed per acre as on a poorly tilled soil because practically every seed will germinate and produce a plant, while on the cloddy land a large part of the seed will not secure enough moisture for germination, to say nothing of those that germinate but soon wither and die for lack of a suitable place to send their delicate roots.

The land should be plowed moderately deep; for the average farm crop six to eight inches is sufficient. This should be followed by the disc harrow, which will, under ordinary conditions, break up the majority of clods, and if a float or land drag is then used a very good seed bed is obtained. In extremely heavy soils this operation may have to be repeated, but such instances are rare. In the irrigated valleys of the State the land should always be irrigated before plowing; if this is practiced the soil will break up nice and mellow and it will not be necessary to use so many "after plowing tillage implements."

After the seed bed has been prepared and a good stand secured the next important step is that of cultivation. Most cultivation is done for the purpose of killing weeds, but there are two other good reasons for cultivating. These are: Saving moisture and making plant food available. Weeds use as much moisture and plant food as do crops and in this way cut the crop yield where they are allowed to grow. A soil that will produce a heavy crop of weeds will also produce a good farm crop when properly handled. The best time to kill the weeds is when they are germinating; they can then be killed with the ordinary disc harrow.

As soon as the water has been stored either by natural precipitation or by irrigation, work should be begun to hold it; for evaporation is going on at all times and the soil moisture is constantly moving upward. Unless something is done to check this evaporation the soil will soon be drained of all its moisture. The best and only practical way of checking this evaporation is by cultivation or forming what is commonly known as a mulch. The depth of cultivation will depend on the root development, that is, shallow cultivation must be practiced on shallow rooted plants and vice versa. The common practice in the growing of sugar beets is to deepen the cultivations as the beets increase in size. This induces the beets to extend their roots down deeper in the soil in an effort to secure moisture, and the result is the much sought long beet.

The land should be plowed as soon as possible after the crop has been harvested, so that the land can be exposed to the action of the weathering agencies which help to bring about beneficial chemical changes that are not secured in any other way. Fall plowing tends to loosen up the soil by adding humus in the form of leaves, stalk, stubble, etc. Fall plowing puts the soil in shape to retain the fall and winter precipitation.

Tillage methods that are employed by the successful dry-land farmer are equally as valuable to the farmer in the irrigated sections. Less water and more cultivation should be the slogan in many of the irrigated sections of this State.

Rupert L. Stewart.

# The Home Department

Edited by Gail Richie, State Demonstrator in Home Economics.

## MEAT SUBSTITUTES.

The two statements "The cost of living is rapidly advancing," and "most people eat too much meat," at first thought may seem not to be related, but it must be remembered that meat is one of our highest priced food products, and therefore, if it is overused, it behooves the housewife to study the question of possible substitutes.

To say to people they are eating too much meat and then to serve in its place an unsavory dish, even though it be equal to the meat in food value, does not satisfy the desire for meat. The first lesson learned, if the meat bill is to be reduced, is that the dishes offered as substitutes must be attractive, savory and satisfying.

Meat is valued because of the quantity of protein it contains, so anything that takes its place should also contain fair quantities of this nutrient. However, in the digestion of proteins, certain waste products are formed in the body. When a diet rich in protein is long continued, the quantity of these waste products becomes so great that the excretory organs are overworked, and disease may result. It is well known that in such troubles as rheumatism, gout and certain kidney trouble, the quantity of meat eaten is at once restricted by the physician. Many persons who have not yet developed chronic diseased conditions would be benefited if the amount of meat consumed were limited.

Let us consider some of the foods we can use in place of meat:—

**Legumes:** In a vegetarian diet where all meat is forbidden, the substitute is usually some member of the legume family — beans, peas, lentils, or peanuts. Also the use of legumes to supply the protein in the diet is customary among people who are unable to afford meat. Beans are sometimes called "the poor man's meat."

Baked beans are a familiar example of a substitute meat dish. Work of the hardest kind, such as that done in lumber camps, is performed without difficulty on a diet made up largely of beans. It is recognized as a hearty dish, but its value as a substitute for meat seems not to be so well known, for it is frequently served at the same meal with a meat dish. In some cases beans are difficult of digestion, due to formation of gas in the intestines. The use of a small amount of soda in cooking may help remove the difficulty.

Lentils are a less common type of legume, more often used in soup than in any other way. They may be prepared in the same ways that are used for beans. Lentils are rather pronounced in flavor, and for this reason are probably not so popular as beans or peas.

Peanuts differ from the other legumes in the high proportion of oil they contain. They resemble true nuts and are popularly classed with them Mashed potatoes and peanuts, three parts potatoes to one part chopped nuts, make a nutritious dish.

**Cereals:** Vegetarians make liberal use of cereal products, a practice worthy of imitation. Macaroni, made from a wheat high in protein, if combined with cheese, is a splendid meat substitute. Rice and cheese also make a good combination.

**Cheese:** Cheese is used in a number of ways and its food value is high, averaging about one-third protein and one-third fat. As it is such a concentrated food, it is usually more easily digested if it is finely divided and combined with other food materials. This also increases its palatability for many people, who may like a mild cheese flavor, but do not care for it in concentrated form. Americans, as a rule, eat too little cheese and too often recognize only the one variety—American cream cheese. Europeans are much more familiar with cheese, and its uses, and many American travelers find their prejudices against cheese disappearing when they taste the dishes prepared by foreign cooks.

**Oysters and Fish:** Especially if these are combined with cereal products containing protein, make desirable substitutes for meat. Combined with macaroni and milk, or creamed and served on toast, oysters are savory and nutritious and the cost is not prohibitive.

If the flavor of meat is very much desired, small quantities may be combined with macaroni, hominy or noodles at a reasonable cost, with very good results.

**Eggs:** When eggs are high in price, hard-cooked ones combined with cream sauce, and served on toasted bread, may not be an extravagance.

**Milk:** Added to many dishes, partly because of its palatability and partly because it also contains protein and so increases the food value of the dish.

**Other Meat Substitutes.**

(a) Cooked rice, cheese and white sauce in alternate layers in baking dish; buttered crumbs on top. Bake until crumbs are brown.

(b) **Hominy Croquettes:** 1 cup hominy, 1 cup thick white sauce, 2 tablespoons grated cheese. Shape in balls, roll in crumbs, dip in egg, roll in crumbs again and fry in deep fat.

(c) **Macaroni and Oysters:** 1 cup macaroni (cooked), 1 pint oysters, 1 cup white sauce, 1-3 cup buttered bread crumbs. Arrange in layers and bake until crumbs are brown and dish is thoroughly heated.

(d) **Escalloped Fish:** 1½ cups flaked fish, ½ cup buttered crumbs, 1 cup white sauce. A small slice of onion, a sprig of parsley, and a bit of bayleaf may be cooked in the sauce and removed before combining with the fish. Alternate layers of fish and white sauce in buttered baking dish, covered with bread crumbs and browned in oven.

(e) **French Rarebit:** 3 large slices of bread, buttered and cut into inch squares, 1 tablespoon grated cheese, 1 cup milk, 1 egg. Fill buttered baking dish with alternate layers of bread and grated cheese. Moisten thoroughly with mixture of milk and egg. Season with salt and pepper. Bake until mixture sets like a custard, and browns on top.

It is unnecessary to serve more than one protein dish at a meal, and only makes extra labor for the one who prepares the meal.

# Boys' and Girls' Club Work

(W. T. Conway, State Agent.)

### Organization Over.

By the time our readers receive this issue of the "Courier," the last club for 1916 will have been organized, ready for work.

The door of opportunity has been kept open to the boys and girls of the State for three full months. Not only that, but watchmen have been at the gate urging the youth to enter and learn to succeed. Many have availed themselves of the splendid opportunity and are well on the road that leads to success. Many more have stood back with indecision and permitted occasion to pass. They have sealed their own destinies in Club work for 1916. Such is life. Some see their opportunities, make their choices, and forge ahead; some never see, and others stand idly wondering why the other fellow always succeeds. Is luck against them? No, it is the lack of pluck and determination that dooms them to failure. Why can't they wake up?

### Reports Received.

Daily, almost, the club reports are coming in, which are very gratifying to the State Agents in Club Work. Very few are reporting members dropped, and only one club, so far, out of more than a hundred, has reported "disbanded." That is a good showing of the kind of metal New Mexico boys and girls are made of. They believe they can succeed, and are sticking to their jobs like loyal men and women. Hurrah for the boys and girls that have plenty of grit and "get-up-and-git." That is the spirit that wins.

Only members who have begun to do something will be counted from now on. Nominal members—those who just handed in their names but never meant to make them stand for something—will soon be forgotten by the State Leader's office for the Leaders are too busy helping those members that are doing things to have even a moment for the "quitters." Say, are you going to be a "quitter," or a "get-up-and-gitter"?

### Central Counties Coming.

The counties in which the Assistant State Leader has been working for the past month are coming to the front with their enrollment. They have made it necessary for the State Agent to get out a second edition of club lessons, to have enough to go round.

These counties lie in the heart of the Spanish-speaking section of the State. It is very gratifying to see these boys and girls measuring up to their opportunities to learn better methods of agriculture and home-making. When they demonstrate the value of new and better methods, the older people will observe the improvement and begin to do likewise. This is simply club history repeating itself. "A little child shall lead them."

### Pigs and Poultry Popular.

Of the six club projects, "pigs and poultry" are taking the lead for the outdoor work, while sewing, as usual, is holding its own in home economics. Lively boys and girls like to work with live things. This is quite natural and harmonizes with the farming conditions in New Mexico. But we do not want our Club members to forget that the feed for the livestock and much of our own food must come from the tillage of the soil. The crops and the gardening should never be neglected. These will become more prominent as conditions improve for their production.

### The Loyal Local Leader.

The success of the Boys' and Girls' Club work in New Mexico does not depend so much on the literature and personal help given out by the State agents as it does on the active interest and guidance of the Local Leaders. The Local Leaders stand in the same relation to the Club Work as the teachers do to the schools. Some one higher up may plan excellent courses of study and select an excellent set of textbooks, but it takes a loving, living teacher to apply the forces so that the results will be a liberal education for children.

There are three things a Local Leader should start out to do. First, he should strive to make every Club member enthusiastic over his project,—make him feel that Club work is worth while, and that its rewards are in proportion to the efforts made to gain them. Second the Leader should make the Club meetings occasions, first, for transacting business. He should see that the literature sent out by the State Agent is properly distributed, explained and understood. He should see that records are being properly kept by the Club members, and that reports are sent in at least once a month. In the third place, the Leader should not neglect the "play side of life." This can be brought out at the close of meetings, and will reach its best stages at the fall festival or local contests. Of course exhibits will be made, products be judged and premiums awarded, but let the members have a chance to tell of their achievements. Put on several play contests that will call forth knowledge and skill that have been acquired or stimulated by the Club Work. These play contests may be along the lines of projects worked out or related to them, or they may be made to suggest new projects entered.

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## CLUB LEADERS AND MEMBERS LOOK! LISTEN!

In the March issue of the "Courier" we published a notice of premiums offered by the W. D. Boyce Company of Chicago—a $4,000.00 club house, ten scholarships, and a pin each for the County Champions—stating that two subscriptions to the "Farming Business" were required on the part of each Club member of Clubs competing for these premiums. They have now thrown the contest open to all clubs, without requiring members to send in subscriptions. They would be glad to get the subscriptions to the "Farming Business," just the same. The paper comes weekly, and is well worth a dollar a year.

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## Boys With Berkshire Pigs.

The American Berkshire Association has offered $50.00 in premiums to be awarded to winners raising Berkshire pigs in New Mexico. They do this to encourage our Pig Club boys to raise this particular breed. Only those boys raising Berkshires will be eligible for these special premiums.

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## CLUB SPIRIT IN CURRY COUNTY.

County Superintendent J. M. Bickley believes in the educational principle of the Boys' and Girls' Club Work. He not only talks Club Work to his schools but spurs them on to action. So well had he prepared the way that there was but little left for the State Agent to do except formally to organize the Clubs and get the members to sign up their applications for definite projects. Thirteen schools out of fifteen visited have either organized or agreed to organize Clubs for this year's contest. In many of these schools nearly every boy and girl of Club age seemed eager to get into the Club Work. The majority have organized two Clubs—one for boys and one for girls—while one school has asked for four of the six Club Projects. This school is Pleasant Hill. Its boys and girls have done Club work the longest of any district in the State. Some of its members entered the work four years ago and have been in every State contest since. One of the boys who has been a "life member" is now in his last year for competitive club work. He was chosen by his comrades as Local Leader for the Pig-Crops Club. This is a natural consequence of the Club work—Club leadership.

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# THE NEW MEXICO FARM COURIER

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A View Showing Some of the Buildings of the New Mexico College of Agriculture and Mechanic Arts, State College, N. M.

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THE NEW MEXICO FARM COURIER

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## A GREAT INDUSTRY.

The fact that New Mexico live stock has increased in value about ninety-five per cent during the past five years, or at the rate of about nineteen per cent per annum, is cause for gratification. The value of the live stock of the State is not only assuming huge proportions, approaching the $100,000,000 mark, but taken as a whole, the industry is evidently quite profitable.

The table below, computed from Government reports, shows the values of the principal domestic animals of the State, the gain in value during the past five years, and the average annual increase in value during the same period.

With more interest being taken in feeding, and the general trend of prices of meats upward, the future of the live stock industry in New Mexico seems to be quite promising.

The cattlemen of the State are to be congratulated on the improvement they have made in the quality of their herds during the past few years. The quality of the sheep, in some sections, has also no doubt been materially improved; but in the State as a whole, this improvement has not, apparently, been as marked as in the case of the beef cattle.

| | Value Jan. 1, 1911 | Value Jan. 1, 1916 | Gain in Value During Past Five Years | Avr'ge Annual Incr'se in Val.* |
|---|---|---|---|---|
| Horses | $8,900,000 | $13,572,000 | $4,672,000 | 10.5% |
| Mules | 1,230,000 | 1,445,000 | 215,000 | 16.7% |
| Milch Cows | 2,167,500 | 5,092,000 | 2,924,500 | 27.0% |
| Other Cattle | 18,374,400 | 43,709,000 | 25,334,600 | 27.6% |
| Sheep | 9,712,560 | 14,792,000 | 5,079,440 | 10.5% |
| Swine | 423,200 | 819,000 | 395,800 | 18.7% |

*During the past five years.

# Educational Advantages Offered by the New Mexico College of Agriculture and Mechanic Arts

Located in the southern part of the State, about two and a half miles from Las Cruces, is the New Mexico College of Agriculture and Mechanic Arts, sometimes called the State College or Agricultural College. For twenty-six years many of the young men and women of New Mexico have received at this institution practical instruction along the lines of agriculture, the mechanic arts, household economics, general science, or in the commercial department; and up to the present time 160 have graduated from one of the regular four-year college courses. Many of the several thousand who received their training at the College are now holding responsible positions in this and other States, as well as in several foreign countries.

About a generation ago, when agricultural and mechanical colleges were comparatively new in the United States, there was an impression in some quarters that they were only trade schools. This condition has entirely disappeared. For many years the work of such colleges has been generally recognized as filling the need for a cultural as well as for a technical education; in fact, the present standard in A. & M. colleges is higher than that of many of the older cultural colleges. In recent years there has been a growing conviction that the old cultural education is not adequate to meet the practical needs of the student. The need of bringing the practical and the cultural together has been met as perfectly by the agricultural colleges as by any other schools.

The College employs a large force of trained specialists as instructors along the various lines offered, and its standing among similar institutions throughout the United States is high. The equipment for instructional purposes is extensive and up-to-date.

In addition to the instruction received in the class room and laboratory, the agricultural student has opportunity to observe the experimental work being carried on by the Agricultural Experiment Station, and the manner of conducting the farming operations in the Mesilla Valley. In this way the practical application of much of the theory advanced in textbooks can be noted.

The Engineering School is furnished with equipment valued at $40,000. The student has the option of pursuing a mechanical, electrical, civil or irrigation engineering course, after entering the College. The courses include a great deal of practical work. Frequent trips are made by students of this school, as well as by agricultural, household economics, and other students of the College, to manufacturing plants of El Paso, Texas, or other industries that will be of assistance in connection with their studies.

The home economics work is in charge of instructors specially trained along this line. Thorough instruction is given in domestic science and domestic art subjects. Graduates from this Department have, in a number of cases, been employed to teach household economics in high schools or colleges.

The general science course enables the student, if he so desires, to specialize in some of the sciences.

In addition to the above, a preparatory department is maintained by the College, for students who have not had the benefit of a high school education; and classes are also conducted in stenography and typewriting, for those who desire to become proficient in these.

While the fact that students are sent to the College for the purpose of study is never lost sight of, they are encouraged to take some part in athletics, under the direction of a professor of physical culture and hygiene. Military drill is required three hours a week of all male students, except juniors and seniors.

The expenses of attending the New Mexico College of Agriculture and Mechanic Arts are comparatively low; and in the past, when necessary, quite a few industrious, earnest students have been able to earn a considerable part of the amount required.

The College is located in a community that is free from objectionable features. There are three churches in the vicinity, and the closest saloon is distant about two miles and a half. Active Y. M. C. A. and Y. W. C. A. organizations have been in existence among the students for many years, a large Y. M. C. A. building being located on the College campus. There is seldom a case of discipline among the students. They come for work, and every one is kept busy.

It will pay any one who contemplates going away to school, either this year or at some more distant time, to look further into the advantages offered by this institution. The catalogue for 1916-'17 will be ready for distribution within a few days, and a copy of the same can be secured by any interested person by addressing the President, State College, N. M.

## EXCELLENT RECORDS BY HOLSTEINS.

Four Holstein cows at Roswell have just completed an official test lasting fourteen days, supervised by the State Agricultural College. Three of the cows are only two years old. These averaged six gallons of milk each per day. The fourth one is four years old. She gave as high as ten gallons of milk in a single day, making a seven-day record of 551.2 lbs. of milk and 16.89 lbs. of butterfat, equal to more than twenty pounds of butter. In fourteen days she produced 1,085.2 lbs. of milk and 32.43 lbs. of butterfat. This cow is Aaggie Teehee Beets 184286, and by the above production she takes all 7- and 14- day official records for the State, both for milk and for butterfat. She, together with the other three heifers, are the property of Dr. A. D. Crile of Roswell, N. M., who fed and milked the cows on test, and who has one of the best herds of pure-bred Holsteins in the Southwest.

From Silver City comes the news that an eighteen-year-old cow, a Holstein grade owned by the New Mexico Cottage Sanatorium at that place, is now giving 67 and 68 lbs. of milk daily. This old cow has always been a splendid producer, and the record which she has and is making are truly remarkable.

R. W. LATTA,
Dairy Extension Office,
State College, N. M

# Department of Agronomy

## Sudan Grass.

Sudan grass was first introduced into the United States in 1909, and since that time it has been quite widely scattered throughout the country. It has a wide range of adaptation, doing quite well under humid conditions even as far north as latitude 49 and standing the droughts of the semi-arid sections as well, if not better than any other cultivated crop.

Only within the last two or three years, however, has Sudan grass been cultivated primarily for hay. Previous to this it was grown almost entirely for seed, due to the large demand for seed and the resulting high prices. However, the supply has exceeded the demand, the inevitable drop in price has followed, and this in turn has stimulated to some extent the production of Sudan grass hay.

The discovery of this new grass came about as the result of a search for forms of wild andropogons which do not have rootstocks. In other words they sought to find a grass having all the desirable qualities of Johnson grass and yet free from the one objectionable feature, viz., that of producing rootstocks. Sudan grass is very closely related to the cultivated sorghums and hybridizes with them readily. Under cultivation in the United States this grass has shown itself to be distinctly an annual, being easily killed by frost.

It seems quite improbable that Sudan grass will ever replace alfalfa as a hay plant in the irrigated sections of the West, but where dairying is the chief industry of the people it is quite possible that this crop could be grown for mixing with the alfalfa and in this way produce a feed that would suit the needs of the dairymen better than alfalfa alone. Sudan can be made to fit into any rotation; this alone should mean much to the average farmer.

Under irrigation Sudan grass yields better than does alfalfa. In some places yields of over nine tons per acre have been reported.

Experiments with Sudan grass have been conducted at this Station for the past few years but only in a limited way until last year, when a considerable acreage was seeded to this crop. About six acres of Sudan was grown last year; some of it being planted in rows and some broadcasted. The following table will give some idea of the results obtained from the two methods of seeding:

**Broadcasting and Planting in Rows Compared**

| | Pounds per Acre | | | Total Yield | Lbs. Water to Produce 1 lb. Dry Matter | | | |
|---|---|---|---|---|---|---|---|---|
| | 1st cut | 2d cut | 3d cut | | 1st cut | 2d cut | 3d cut | Aver. |
| Rows ....... | 1892 | 3501 | 2035 | 7428 | 2042 | 669 | 1202 | 1304 |
| Broadcast ... | 1895 | 2671 | 1695 | 6261 | 2531 | 581 | 1652 | 1588 |

The land was all prepared at the same time and in the same way and received practically the same treatment after seeding. The seed was broadcasted with a single disc drill at the rate of 8 pounds per acre and covered about two inches deep, and planted in 32-inch rows about 2 inches deep at the rate of 2½ pounds per acre.

It will be noticed that in almost every case the field planted in rows gave the better yield but the difference is slight except in the second cutting, when the rows yielded 830 pounds per acre more than the field that was broadcasted.

The number of pounds of water that it took to produce one pound of dry matter is quite high; much higher, in fact, than the requirement for corn, wheat or oats; but this does not necessarily mean that it takes that much to produce a crop, as the water was applied at frequent intervals without reference to soil moisture.

The yield of hay is not as high as might be expected but the seed was not planted till the middle of May, which is too late in this section. It should be planted as soon as the danger of heavy frost is past and in this way three heavy crops can be secured.

April 25, 1916.

RUPERT L. STEWART,
Agronomist.

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## IMPROVEMENT OF SANDY SOILS.

The sandy soils of New Mexico may be improved in a number of ways. The most important of these, however, is the addition of vegetable matter. It is needed to increase their water-holding capacity, as well as to add to their fertility. It is a well known fact that it takes more water to produce crops on sandy soils than on those of a heavier nature. If we increase the water-holding capacity by the addition of organic matter, it will take less irrigation water to produce maximum yields of crops.

The addition of organic matter, either in the form of green manures or barnyard manure, adds fertility directly as well as increasing the availability of plant nutrients already in the soil. It also improves the structure of the soil and will help to keep the wind from "blowing" the sand, by acting as a sort of binding material. In time it may be necessary to apply commercial fertilizers to produce profitable crops on our sandy soils, but in very few cases is this true at present.

The average sandy soil contains but from one-third to one-half as much plant food as clay loams, hence the need for careful management of soils of this type. Legumes are very beneficial to these soils, because they supply the much needed nitrogen, as well as humus. Crop rotations for sandy soils should be chosen so as to increase the amount of vegetable matter and provide a legume crop to cover the soil at least once every three years.

J. T. Barlow.

# Department of Animal Husbandry

## BLOAT IN CATTLE.

Bloat is a very common cause of loss to dairymen, and should be more fully understood. Any green feed is apt to cause bloat when there is a sudden change from dry feeds, but green alfalfa is by far the most common cause of the trouble. Green alfalfa ferments rapidly in the paunch, and the gas distends this large stomach on the left side of the animal. This causes a pressure on the heart, which often results fatally, unless relief is given.

Preventive measures should always be observed. When first turning the cattle on alfalfa, they should be filled up on dry hay, and then not allowed to pasture on the succulent alfalfa more than a few minutes. This precaution is especially important when the alfalfa is making rapid growth and when it is in blossom. The cattle should not be turned on this pasture after a rain until the plants are dry. Many dairymen are very successful in pasturing alfalfa, but they accustom the cows gradually to it and keep the alfalfa eaten down close.

But with all precautions observed,

cases of bloat occur quite commonly; so that every dairyman should know how to handle a case. Successful treatment aims at relieving the pressure of gas and checking fermentation. Relief may often be obtained by fastening a stick, thick piece of rope, or twisted handful of hay crosswise through the animal's mouth. The chewing on this bit will stimulate the secretion of saliva; when the animal swallows, gas will escape. Some dairymen have been very successful in passing a small rubber tube, oiled with vaseline, down the animal's throat into the paunch, and allowing the gas to escape through this. There are several medicinal agents which have been successfully used to stop the fermentation. One of the following may be found useful: one ounce of hyposulphite of soda (hypo of photographic use) in one quart of water; one to two ounces of turpentine well shaken up in two quarts of milk; one ounce of aromatic spirits of ammonia in one quart of water; half an ounce of chloride of lime dissolved in one pint of tepid water. All of the above doses are for adult animals, and are to be given as drenches. In drenching a cow do not give the whole dose at once but just a few ounces at a time, as a cow is apt to choke, and pneumonia is a common result. The Kentucky Experiment Station has worked out a new treatment which seems to be very effective. This consists in one tablespoonful of common 40% formalin shaken up in a quart of water and given as a drench, followed by putting a rope or wooden bit in the animal's mouth and giving her a little exercise.

The final resort in an emergency case of bloat is to puncture the animal with a trocar, at a point on the left side mid way between the point of the hip, the backbone at the loin and the last rib. The skin at this point should be washed with a disinfecting solution and a small cut made through the outer skin with a sharp knife. The trocar and canula after being cleaned and disinfected, are thrust down into the paunch and the trocar withdrawn, leaving the canula in the opening. No harmful after effects result, as a rule, if the above directions are followed

After the animal seems to have recovered, it is well to give a dose of salts (one pound of Epsom salts with half an ounce of ground ginger) to clear out from the stomach the material which has caused the trouble.

R. W. LATTA,
State Agent in Dairying, U. S. D. A.

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## CONDIMENTAL OR STOCK FOODS.

It is not unusual to see various kinds of stock foods, tonics, poultry foods, "egg producers," etc., displayed in store windows and advertised extensively in the papers and agricultural journals. Extravagant claims are sometimes made for these foods, as though they possessed some extraordinary nutritive or medicinal value.

Neither chemical analyses of foods of this class, nor results of feeding trials, warrant such claims. The better class of these foods are usually made up of linseed meal, grain or grain products with various materials added, such as common salt, charcoal, copperas, fenugreek, gentian, pepper, sulphur, Epsom salts, etc. In some cases these latter materials compose a large per cent of the "food." A certain horse and cattle powder, upon analysis, was found to contain as much as 17 per cent of Epsom salts. The Epsom salts in this case did not increase the nutritive value of the powder, and could be considered as of medicinal value only; and the same is true of the other ingredients usually added to the basal food materials. These ingredients are added to the food for the purpose of "stimulating the appetite," "aiding digestion," "improving the condition" of the animal, etc. It has been found that when these foods are fed according to directions the animals receive far less of the spices, drugs, etc., than are usually administered by competent veterinarians, and therefore the foods cannot be considered as affording efficient medical treatment. Stock foods of the poorer class usually consist chiefly of inferior grains and mill products, such as mill sweepings and screenings.

Authorities agree that under ordinary circumstances, if an animal is properly cared for and furnished a ration that is wholesome, palatable and well balanced, there is no need of "stock foods," "tonics" or similar preparations. If an animal is sick, give it specific treatment to meet the conditions, rather than a "cure-all."

Feeding trials have failed to show any material advantage of the "stock foods" over the ordinary feeding stuffs when fed in properly balanced rations; and that when the higher cost of the prepared foods is considered, the advantage is with the common feeds. In some cases, it may be possible that the feeding of foods of this clas will prove advisable, but these are the exception, rather than the rule.

Sometimes when farm animals are not thriving as they should, the trouble is with the feed supplied. The feed may be poor in quality or unsuited to the animal or the purpose for which the animal is fed. Under such conditions a change in the ration will usually bring about a thrifty condition of the animals, without medicinal treatment.

However, for those who feel the need of a stock food to improve the condition of their animals, the following formulas are given:

| First Formula | Lbs. |
|---|---|
| Fenugreek | 2 |
| Allspice | 2 |
| Gentian | 4 |
| Salt | 5 |
| Saltpeter | 5 |
| Epsom salts | 10 |
| Linseed meal | 100 |

| Second Formula. | Lbs. |
|---|---|
| Powdered gentian | 8 |
| Ginger | 8 |
| Fenugreek | 8 |
| Powdered sulphur | 8 |
| Potassium nitrate | 8 |
| Resin | 3 |
| Cayenne pepper | 4 |
| Linseed meal | 44 |
| Powdered charcoal | 20 |
| Common salt | 20 |
| Wheat bran | 100 |

| Third Formula. | Lbs. |
|---|---|
| Ground gentian | 4 |
| Powdered saltpeter | 1 |
| Ground ginger | 1 |
| Powdered copperas | 1 |

The mixtures from formulas 1 and 2 may be given to mature horses or cattle at the rate of 1 tablespoonful with each feed. The mixture from the third formula is more concentrated and may be fed at the rate of 1 tablespoonful daily, mixed with other feed, for 10 days, then omitted for 3 days, and again given for 10 days.

F. W. CHRISTENSEN,
Nutrition Chemist.

# Horticultural Department

## LIFE HISTORY OF THE CODLING MOTH FOR SEASON OF 1915.

For a number of years extensive spraying experiments have been conducted by the Experiment Station for the control of the codling moth. However, to secure the best results by spraying, the applications must be properly timed to catch the maximum number of larvae before they enter the apples. This requires a detailed study of the life history of the insect. Only a brief report of last season's study can be given in this article.

**Definition of Terms:** The term brood is used for any stage of the insect. Generation includes all the stages of the insect from egg to adult. Complete life cycle includes the time from the depos'tion of eggs of one generation to the deposition of eggs of the next generation.

The codling moth winters in the larval stage, which transforms in the spring into spring-pupae and spring-moths. The spring-pupae and spring-moths, although the first to appear in the calendar year, are not designated as first-brood pupae and first-brood moths. The first-brood pupae and first-brood moths appear later in the season and are pupae and moths of the first generation.

These investigations were conducted in an open shelter under outdoor conditions. The material used to begin these studies consisted of larvae collected in the fall of 1914, which passed the winter in "cocoon racks," kept under outdoor conditions throughout the winter.

The first larva to pupate in 1915 was on March 2. The last of the wintering over larvae pupated on April 14. The first moths of the spring brood emerged March 19, before the apples had begun to bloom. Only 10 moths emerged in March; 274 emerged in April, with a maximum of 40 on April 14. In May 49 emerged, with a maximum of 5 on May 1. The last of the spring-brood moths were obtained May 19.

The First Generation—The first eggs of the spring-brood moths were deposited April 14, with a maximum of 25 laid on April 22. The last of the first-brood eggs were laid May 23, giving a total of 498 eggs for the first brood. However, the first larvae to hatch were on May 6, with a maximum hatch of 33 on May 14. The last of the first-brood larvae hatched May 15.

The first-brood moths began to emerge on June 14. A maximum of 68 occurred on June 20, with a total of 661 moths for this brood. Many of these moths were secured from larvae collected from banded trees. There was a break of twenty-five days between the emergence of the last moths of the spring brood and the first of the first brood.

The Second Generation—There was no break in the emergence between the first and the second broods of moths. The second brood began emerging July 15 and continued until September 20, when the last moths of the season occurred. 1567 emerged in July, 1337 in August, and 76 in September. The maximum for the season was 133 on August 10. Total for season, 3,798.

The first of the second-brood eggs were deposited June 20, and hatched June 25. Egg laying was continuous to September 24, when the last eggs of the season were deposited. The number of eggs deposited each month was as follows: April, 112; May, 386; June, 2,660; July, 7,519; August, 5,230; September, 640; giving a total of 16,547 eggs for the season, with a maximum of 593 deposited July 24.

The Third Generation—The deposition of eggs of the third brood began July 17, though there was no break in egg laying between the second and third broods. The third brood of eggs was the largest. Only three generations are spoken of in this article, though it is believed this year's pure-line breeding will prove a partial fourth generation.

### Summary of Life Cycles.

First Generation—The length of the incubation period of the maximum number of eggs was five days. The transforming larvae of the first brood fed for a period of about twenty-two days. A maximum of larvae pupated in four days after leaving the apples and remained in the pupal stage for ten days before emerging as moths. The period of oviposition was about seven days; minimum, one day, with a maximum deposition three days after the moths emerged. Complete life cycle of first generation forty-four days. (The average life of the moth was about five and one-half days.)

Second Generation — Incubation period, five days. Feeding and cocoon period of larvae, twenty-two days (feeding period eighteen days). Pupal stage, ten days. Maximum oviposition, three days. Total forty days.

Third Generation — Same as the second except that the larvae fed in the apples for about twenty-three days, making forty-five days for the life cycle

——— A. B. FITE.

## SPRAYING PEARS, 1915.

During the season of 1915, three different spraying experiments with the pear were conducted. First, three sprayings with the Bartlett, to test the early spraying that corresponds to what is known as the "calyx spray" on the apple; in the second experiment this "calyx spray" was omitted; the third experiment was tried with the Winter Nelis pear without the "calyx spray."

The Bartlett pear in 1915 was recorded in full bloom on April 9. On April 28 the first spray was applied; this is the one that corresponds to what is known as the "calyx spray" on apples. The Bartlett pear does not close its calyx as do most of the apples. The second spraying was given on May 21, and the third on June 15.

On August 6 the fruit was picked from the seven sprayed trees. The total number of pears produced by these seven trees was 4,087. Out of this number there were 3,696 sound and 391 wormy pears; or 90.43 per cent sound, and 9.57 per cent wormy.

In the second experiment, in which the first spraying, corresponding to the "calyx spray," was omitted, there were three trees sprayed on May 21, June 15, and July 1.

On August 6 the fruit was gathered and the three trees produced 673 pears. There were 576 sound, and 97 wormy; or 85.58 per cent sound and 14.42 per cent wormy. The results in this experiment were not quite as good as in the first. The results with the "calyx spray" gave 4.85 per cent more sound fruit.

Four Bartlett trees were used as checks. These were harvested on August 6, producing 3,019 pears. There were 826 sound and 2,193 wormy; or 27.39 per cent sound and 72.61 per cent wormy. Thus it is seen that the three sprayings with the "calyx spray" gave 63.04 per cent more sound fruit than the check trees, while the three sprayings without the "calyx spray" gave 58.19 per cent more sound fruit.

In the spraying of the Winter Nelis

the "calyx spray" was omitted. The trees were sprayed on May 21, June 15, July 1, and July 27. On October 21 the fruit was gathered and out of 692 pears produced by the three trees, 670 were sound and 22 wormy; or 96 82 per cent sound and 3.18 per cent wormy. The check Winter Nelis trees produced 130 sound pears and 31 wormy ones, or 87.74 per cent sound and 19.26 per cent wormy. The comparatively large per cent of sound fruit on the check trees would indicate that the Winter Nelis pear is not so susceptible as the Bartlett to injury from the codling moth.

The powdered form of arsenate of lead was used, at the rate of 1½ pound to 50 gallons of water. The first spraying was applied with the Bordeaux nozzle, and was comparatively coarse. In the subsequent sprayings the Vermorel nozzle was used, giving a fine cone-shaped spray. A pressure of about 180 pounds was used in this experiment.

During the summer of 1914, four Bartlett pear trees were sprayed on April 22, May 16, June 15, and July 10. These trees produced 1,150 pears. There were 1,148 sound and 2 wormy, or 99 82 per cent sound.

The check trees produced 489 pears; 275 were sound and 214 wormy, or 56 2 per cent sound.

The result of these two years' experiments in spraying the Bartlett pear show that spraying will reduce very materially the percentage of wormy fruit.

FABIAN GARCIA.

# Department of Biology

## POTATO SCAB.

Potato scab, known in America as "deep scab," "common scab," or "American scab," is one of the most common and widespread of all diseases of the potato. This disease is caused by Actinomyces chromogenus, one of the thread bacteria.

In order to control this disease it is essential that the growers have a clear conception of the conditions controlling its development.

The scab attacks the tubers during any stage of their development, from the time when they are mere buds until they cease to increase in size. These scab spots, once started, rapidly spread and increase in depth until large patches or the whole exterior of the potato may become affected, leaving very unsightly scars which in the case of the deep or well advanced scab, may penetrate to a depth of one-sixteenth to one-eighth of an inch The injuries and losses caused by potato scab are:

1. Depreciation in value due to the unsightliness of the disease.

2. Loss caused by the extra thick paring necessary when preparing the potato for table use.

3. Changed taste and odor due to the presence of scab.

4. A shortage in crop yield when scabbing is abundant.

5. Increased liability to tuber decay both before and after harvest. It seems clear that potato growers must in the future pay more attention to the scab problem. The first thing to be considered is the planting of seed that is, or that has been made, free from the scab. Probably the most effective method of disinfecting seed potatoes is by soaking the tubers in a solution of formalin, known under the trade name of formaldehyde. Use

one ounce of formaldehyde in two gallons of water and soak the tubers for two hours in this solution. At the end of this period draw off the solution and allow the tubers to dry. The same solution can be used for two or three lots of potatoes. Care should be taken not to put the treated seed back into infected barrels or sacks, but these too should be disinfected with the solution. The formaldehyde may be procured from almost any druggist at a cost of about fifty cents per pound, and one pound should be sufficient to disinfect seed for several acres of potatoes.

Scab is most prevalent in alkaline soils and is favored by moisture. In general, it may be said that scabby seed potatoes in any soil will produce a scabby crop. Seed potatoes free from scab, in a soil free from scab, will raise a crop free from this disease. Seed potatoes free from scab will not produce a healthy crop if grown in an infected soil. If the land is free from scab, great care should be taken to avoid introduction of the scab organism. If seed must be planted that cannot safely be regarded as free from scab—and no seed from an unknown source can be so regarded—it should be disinfected to free it from the scab bacterium. The scab organism may persist six years or longer in the soil without a known host plant.

It is quite probable that certain varieties are more scab resistant than others, and the grower whose soil is infected should endeavor to grow varieties less susceptible to the disease.

This disease is not so much a matter of eradication as one of prevention and control. The grower who is fortunate enough to be free of its injury will do well to disinfect any purchased seed and guard against it. With the producer who is already troubled with scab, it is largely a matter of control by careful rotation, fertilization and selection of varieties.

FRED C. WERKENTHIN,
Assistant Biologist.

# The Home Department

Edited by Gail Richie, State Demonstrator in Home Economics.

## SCIENTIFIC GROUPING OF KITCHEN UTENSILS

Much time and energy are wasted in the ordinary kitchen because the housewife has grouped her materials and utensils according to kind instead of according to the uses which they are to serve. Usually we find groceries kept together in one part of the kitchen, cooking utensils in another, cooked food in another, service dishes in the dining room. When we begin to work we can see how wasteful this arrangement is. Take the simple process of cutting bread With the bread box on the table in the pantry, the bread knife in the cutlery drawer, the bread board hanging up against an opposite kitchen wall, we must make three separate trips in order to get our materials together and prepare to do the work. Every separate task or process that we analyze shows the same wastefulness of time and labor unless our kitchen outfit and supplies are properly coordinated. We begin to realize how serious is this waste when we remember that very many kitchen tasks are performed three times a day; and that the number of separate processes carried on each day in even the simplest kitchen ranges upward from twenty-five. It is no exaggeration to say that at least two hours a day are lost in the average kitchen by improper grouping of supplies and utensils.

It is wise to group the utensils around the fixed equipment to which they belong. Following is a suggested grouping:

Articles to be grouped near range: Frying pans, dripping pans, pot covers, salt box, pepper box, match box, stove cloths, asbestos mats, rack for dish towels.

Articles to be grouped near sink: dish pan, dish drainer, pitchers, stew pans, teapot and tea canister, percolator and coffee canister, double boiler.

Suspended from edge of shelf or wall back of sink the following small implements: Soap shaker, soap dish, dish mop, vegetable brush, small funnel, small wire strainers, plate scraper, pot scraper.

Articles to be grouped near work table: Measuring cups, baking dishes, pastry outfit, cake tins, bread pans, meat grinder, mixing bowl, strainer, container for spices, jars for grocery supplies, containers for flour, sugar, etc., cutlery outfit.

By concentrating the working processes in one part of the room, large kitchens have been made convenient. Awkward, badly planned kitchens have been transformed into efficient work rooms at small expense, just because working materials and utensils were grouped in a way that helped the work along instead of hindering and setting it back.

"The Efficient Kitchen," by Georgie Boynton Child (McBride, Nast & Co., New York), and "The New Housekeeping," by Christine Frederick (Doubleday, Page & Co., Garden City, N. Y.), are two very valuable books written by housekeepers who have made a special study of arrangement of equipment to economize time and labor.

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## CALLED TO THE FRONT.

Mr. J. H. Toulouse, Assistant State Agent in Club Work, has been called to take charge of his company and go to the border. Mr. Toulouse is captain of Company G, the members of which did valiant service in our State Club Encampment at the 1915 State Fair.

Let us hope trouble may be averted and Mr. Toulouse may soon be back leading his army of boys and grils who are bravely making war on the weeds in garden and field and fighting pests of pig and poultry, thus endeavoring to add to the nation's wealth and to better home conditions.

# Regarding the Distribution of Blackleg Vaccine

Inquiries are received from time to time by the New Mexico College of Agriculture and Mechanic Arts as to how vaccine for the prevention of blackleg can be secured promptly. The sixth revision of Circular No. 31, issued a few months ago by the Bureau of Animal Industry of the U. S. Department of Agriculture, has the following to say on the subject:

"The distribution of blackleg vaccine will be continued by this bureau until further notice, and adequate measures have been taken to avoid all delay in sending the vaccine immediately on receipt of the application. It is advisable that all stock owners in infected districts should vaccinate their young stock regularly, without awaiting an outbreak of the disease, as heavy losses may be sustained in the course of a few days.

"A regular application blank will be mailed to any stock owner who so requests, although a letter stating the number of animals to be vaccinated will be treated as an application.

"A number of stock owners have obtained vaccine in excess of what they actually needed, simply to have it on hand in case they should want to use it. This practice has caused unnecessary work for this bureau, and, on the other hand, stock owners whose cattle were actually dying from blackleg had to wait on this account from two to three weeks, or even longer, before they could be supplied.

"It has therefore become necessary to require each stock owner who wishes to obtain vaccine from this bureau to certify on his honor that the number of doses of blackleg vaccine applied for by him are actually needed at the time the application is made, and that they will be used within four weeks after receipt, on his own cattle, or on cattle in which he is actually interested, or of which he is actually in charge.

"Attention is called to the rule that under no circumstances will blackleg vaccine be sent to any one person for distribution to others, except in the case of designated State officials or sanitary officers. Each stock owner should apply directly to this office for the amount of vaccine required for his own cattle, and this will in each case be sent to him direct.

"All applications for blackleg vaccine should be addressed as follows:

Chief of the Bureau of Animal
Industry,
U. S. Department of Agriculture,
Washington, D. C."

In case of emergency, the vaccine can, as a rule, be secured from the Inspector in Charge, Bureau of Animal Industry, U. S. Department of Agriculture, Albuquerque, N. M.

J. R. MEEKS.

# Boys' and Girls' Club Work

## PARTNERSHIP.

Webster says that a partner is one "who partakes, or shares with another. An associate." It might be added that there is no partnership where all interests do not merge into one common interest. That applies particularly to the sort of partnership that I want to discuss in this article.

What is the status of the partnership in your home between father and son, and mother and daughter? Does it coincide with the definition by Webster, or is it a limited partnership when it comes to the boy and girl of the farm? Where there is a lack of cooperation, the chances are that that farm isn't up to its limit in production, and that there is enough energy going to waste to pay big dividends if it was properly applied.

You know there is a mighty big advantage in an absolute partnership between father and son and mother and daughter. You may leave out all idea of the sentimental, moral side of such a partnership and just look at the matter from the standpoint of productiveness, and if you haven't tried cooperative partnership in your family you will be surprised at the net gain in profits when once you try it.

The National Boys' and Girls' Club Work, under the direction of the United States Department of Agriculture, has for its object the fostering of just such a partnership mentioned above. It is a well-known fact that a great loss of efficiency results from the lack of good system on the farm, and any scheme of farming, where there are boys and girls, that doesn't take the boys and girls into consideration, is a waste of economic force and the loss of a great opportunity at the same time.

Boys and girls who have been given the opportunity and the proper encouragement have demonstrated their worth in these club projects, and it isn't necessary to go out of our own State to find splendid examples of achievements among club workers.

In the work last year Lloyd Conn, of Artesia, stood out as an excellent example of what a boy can do if he has the opportunity and grit, when he took the little broken-legged pig, two days old, which his father had determined to kill, and with care and work produced a hog which tipped the scales at 430 pounds. The same can be said of Milburn Miller, of French, who, after treating seed wheat for smut, sowed one peck on an acre in rows twenty inches apart and reaped thirty bushels. Then there was Willie McVickers who raised a pig and won second prize after she had brought the pig thirty miles by wagon to Artesia; and Mary Etchart and Viola Baker, of Springer, State winners in the cooking club. All of them won achievements which are worthy of special mention.

In all the achievements of boys and girls throughout the entire United States, one thing stands out above all others, and that is the fact that in 95 per cent of the cases there existed a partnership between father and son and mother and daughter, which was the one big element in the success achieved.

This year with a large enrollment of boys and girls in the clubs in New Mexico, the necessary thing for a record-breaking year in club work is absolute partnership between parent and child. It will mean efficiency on the farm and in the home, it will mean more dollars, more happiness, and above all it will better fit our boys and girls for life's struggle; for after all, Industrial Citizenship is the foundation of a Worth While Government.

## REPORTS COMING.

Some of our Clubs are very prompt in making their reports, and these usually show good work. Other Clubs are neglecting this important part of their organization. Reports are very necessary for us. They tell us every month in a brief way the important things that have been done. They are also good for the Club workers, for in making up these reports in Club meetings every member learns what his fellows are doing.

We want all of the Clubs to make monthly reports!

## AN OPEN LETTER TO LOCAL LEADERS.

As far as possible the aim of the State Leaders is to meet personally every Local Leader of the State, so that we can become better acquainted, speak face to face about the peculiar problems that each one has in his own locality, and thus learn how to bring the Club Work to a higher stage of efficiency. Without this personal touch, it is hard for those in the field to realize the deep feeling of appreciation the State Leaders have for the hearty cooperation you Local Leaders are manifesting in this great work. In behalf of my assistant, I, as State Leader, wish to thank the Local Leaders, County Superintendents, and teachers, for the excellent spirit of helpfulness you have shown in assisting us in organizing the Boys' and Girls' Club Work of the State. Very little would have been accomplished without your help.

The Club Work is for the development of our boys and girls, and we have no hesitancy in commending the movement to you and asking for your unselfish service in making the work a success. The work is educative, not simply for making a living—a better living—but it exerts a powerful influence for making life better as well. It takes time, patience, and persistence to realize what the Club Work will accomplish; but there are a number of things immediately in sight and they are all good.

One of the results that we may reasonably expect is an increased quantity of farm and household products showing superior quality. It is right that we look for and work for these advantages in material things. We want our boys and girls to look forward to having their own bank accounts and we want them to make their Club projects real business enterprises to that end.

Another result we may expect is educational. This is farther reaching and of greater value than the material things produced or money earned from them. The better knowledge of economic principles and practices will be with the boys and girls as they live, labor and achieve. Because of this increased knowledge their earning powers are increased and their chances for success multiplied. Both knowledge and skill acquired in the Club work are worth while.

Out of this material and mental development we may reasonably expect increased quality of character and citizenship. In Club work boys and girls are taught principles of truth, honesty and righteousness in all their dealings with one another. This is the only policy that has a right to expect or claim success.

Because of these facts and principles we believe in the Club work and earnestly recommend it to the boys and girls of your section.

Boys and girls need encouragement to keep up their interests in the work. They need help on their lessons and record books. Frequently, they have to be shown what to do next.

To this end, I wish to stress the importance of Club meetings, at least once a month. These meetings are to be practical and business-like and may have a social feature at the end. They will accomplish the most good when held where object lessons can be given on the particular Club projects the members are working out. "Demonstrations" are better than discussions. They grip the attention and stimulate the members to action.

At these monthly meetings, record books should be shown to simplify the forms and to stress the keeping of facts about work done. No Club project can be successfully worked out without keeping a record. Boys and girls usually do their work so far as they know how, but the reports coming to our office show that some of them are slighting their records. We wish the Local Leaders would stress this point at every meeting, require members to bring their note books to the meetings, read some of the best kept records and thus show delinquents how the work ought to be done. The neglect of his record will be the first thing to kill the interest and enthusiasm of a Club member.

I am sure our Local Leaders will find pleasure and profit in the time and energy spent in Club work because of the results that will come to the young people and the reflex influence their work will have on the whole community.

Thanking you again for your help and cooperation and wishing your Club workers success, I am

Yours truly,
State Leader in Club Work

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# THE NEW MEXICO FARM COURIER

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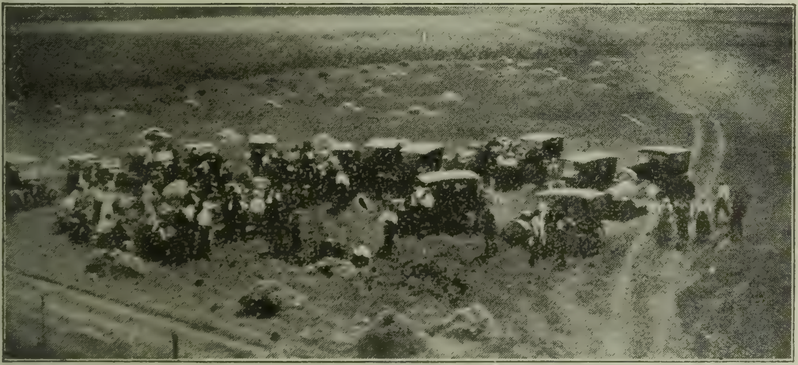

Pit Silo Demonstration. Conducted by the Torrance County Agriculturist.

Published Monthly by The
Extension Division, New Mexico College of Agriculture and Mechanic Arts
State College, N. M.

In Cooperation with the U. S. Department of Agriculture.

# THE NEW MEXICO FARM COURIER

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## JOHNSON GRASS ON DITCH BANKS.

The time of year has arrived, or will soon be at hand in all parts of New Mexico where irrigation is practiced, when all Johnson grass that there may be on irrigation ditch banks should be eradicated, or at least cut and prevented from going to seed. While it is true that this grass will not spread rapidly on land occupied by a good stand of a few crops, such as alfalfa, it is also true that there are comparatively few stands of alfalfa in the State of New Mexico that will not be more or less crowded out in the course of a few years if Johnson grass is allowed to go to seed at will on the main ditch banks, and thus constantly supply the irrigation water during the latter part of the season with the matured seed, ready for lodgment and growth at any point where there is a little space more or less unoccupied. The production of choice alfalfa on land that is also occupied by more or less Johnson grass is a practical impossibility; and too little attention has been paid in the past to preventing the spread of this plant. The grass is also, of course, a noxious weed in orchards and on land planted to grain; it being especially difficult to control or eradicate in orchards.

Johnson grass makes a fairly good hay, and if fed with alfalfa tends to balance up the ration better. In recent feeding experiments it gave slightly better results than timothy. The value of the hay secured by removing it from ditch banks would, in many cases, pay for most or all of the labor involved. However, unless the grass is cut early, before the seed has developed to any considerable extent, its spread may be augmented through viable seeds in the manure.

There seems to be no doubt that it would be sound agricultural practice to kill the grass out on ditch banks, or at least to have it cut regularly, preventing it from going to seed; even though this should make the water taxes a little higher.

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## UNION COUNTY TO HAVE A COUNTY AGENT.

The Extension Division of the New Mexico College af Agriculture and Mechanic Arts is pleased to announce that Union County has been added to the ranks of those having county agents. The commissioners have signed contracts for the work and appropriated $1600 towards the salary and expenses of the man; the College and United States Department of Agriculture to provide the balance.

Mr. Orren Beaty, who for the past year has been the county agent in Wheeler County, Oregon, has been secured for the position. He comes to us highly recommended as a strong man and well qualified to take charge of the work in Union County. The Oregon Extension Division considers him one of the strongest men they have had working for them.

Mr. Beaty graduated from the Oregon Agricultural College in 1909; immediately after which he was appointed Assistant Superintendent of the Eastern Oregon Dry-Farming Sub-station, which position he held for four years, when he accepted the managership of a 6,000-acre grain and stock farm. He served in this capacity for two years, resigning to take up county agent work, which work he has followed up to the present time. He is a man not only well trained in the science of agriculture, but also in the practice. Union County is fortunate in securing the services of Mr. Beaty.

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### Farm Management Demonstrator and Assistant State Leader Appointed

The agricultural interests of the State will be pleased to learn that Mr. W. L. Elser, Assistant State Leader, Farm Management Demonstrations, of Indiana, has been appointed to the position of farm management demonstrator and assistant state leader for New Mexico.

Mr. Elser comes well recommended to take charge of this particular line of extension work. His time and attention will be given to the making of farm surveys in various sections of the State. The work will be especially valuable in pointing out the "leaks" in our farming systems.

After graduating from the public schools of Ohio, his native State, Mr. Elser attended the Agricultural College of the Ohio State University; graduating from the same in 1909. He has had a great deal of experience in farm management investigational work, and assisted in securing the data for a number of bulletins and circulars issued by the Ohio Experiment Station. While attending college he specialized in animal husbandry, and was a member of the students' stock judging team from Ohio at the International Livestock Show at Chicago in 1908.

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### NEW EXPERIMENT STATION WORK

In addition to the forty-five active agricultural projects which the Experiment Station has been investigating, there are eleven new ones which have been made possible through the financial aid given by the last legislature. There are constantly new agricultural problems arising which demand immediate investigation. The Station is now in position to take up the investigation of some of these new problems that come up from time to time. For example, one of the first that demanded immediate investigation was the sugar beet question which was started during February of this year. This investigation contemplates the recording of a sufficient number of data to show definitely that sugar beets can be grown successfully, both as regards yields and sugar content, in order to interest outside capital to come into New Mexico.

The investigation is quite comprehensive. It takes up the growing of something like 150 acres of sugar beets through the aid of farmers cooperating in this work. This feature of the experiment will demonstrate in a practical way as to whether it will pay to grow sugar beets in the irrigated valleys of New Mexico. Definite figures will be obtained as to cost of production, different methods of cultivation, yields and net returns.

In addition to the practical feature of the experiment, tests are being made on a smaller scale to ascertain the best date of planting the seed, both as to yield and sugar content, and to compare the furrow vs. the flooding system of irrigation; to determine the best time of beginning the harvesting; and to determine the best stage at which to thin the fields.

Up to date the results in regard to the different dates of planting are most encouraging. The plats planted on December 24, 1915, and January 24 and February 24, 1916, are doing excellently. The plants are so large that the leaves have practically covered the whole surface between the rows. Many of the sugar beet roots are from an inch to an inch and a half in diameter at the crown, extending down to fifteen or twenty inches in the soil. If these plantings will increase the yield as well as the sugar content in the beet, then we shall have determined not only that early planting is good in this respect, but that a more uniform germination may be had because there will not be much danger of the crusting of the soil or the destruction of many of the small plants by the high winds that we have later in the season. Aside from this the plants will have grown large enough practically to take care of themselves by the time the weeds get to be a nuisance in the fields.

Another of the new projects is in regard to whether or not the Russian thistle, which has come to be a troublesome weed all over the State, has any agricultural value. The project contemplates the ascertaining of whether the Russian thistle has sufficient feeding value to warrant its being used as a feed for livestock either in the form of hay or ensilage. If it can be determined that it has, the dry farmers, in particular, could utilize it to good advantage, as the Russian thistle grows with so little moisture.

Sudan grass is also being investigated in regard to its adaptability to range conditions under a minimum rainfall. This grass has the reputation of being a drought resisting plant, growing very fast and producing big yields. Whether this plant will adapt itself to minimum rainfall under range conditions is the problem that is now being investigated. If it does so work out, then it could be used to a large extent as a range grass in many of the large sections where no other grass is growing.

For some time the question has come up as to the adaptability of cotton in our irrigated valleys in these high altitudes. Naturally, cotton does better in the lower and warmer sections of the country that have a long growing season. However, since plants are so plastic and susceptible to variation that they may adapt themselves to new conditions, the Station is now starting quite a comprehensive cotton experiment to ascertain whether it can be grown successfully under irrigation in the State; to find out as near as possible some of the best short staple varieties; and to compare the short staple with the long staple strains.

Quite a large lamb-feeding experiment will be carried on during the coming fall and winter. In this experiment the Station will make a comparison of the different rations, with the object of securing the most satisfactory and economical results; to determine if the waste roughage in the fields, meadows and pastures of the farms can be turned to profit by running lambs on them in the fall in connection with a small grain ration; to determine if lambs can be profitably fed at present under existing conditions.

The poultry industry in New Mexico is getting to be of great importance. In the past the institution has not been in a position to do very much to help the poultryman. However, at the present time the Station is taking up some of the more important problems in order to secure data which may be of help to the poultry industry. A poultry division has been created and a poultry specialist from Oregon has been secured to carry on the investigations. In these investigations we will have twelve pens, each containing twenty pullets, to test the feeding value of milo and kafir in comparison with wheat and corn, as well as the feeding value of cottonseed meal in comparison with oil meal and beef scraps, and the proper proportion of cottonseed meal to furnish vegetable protein.

Increasing the egg yield, uniformity of eggs, prepotency of egg production and breed characteristics, size, vitality, development and vigor of chicks hatched from eggs of the same hen in the first, second and third laying year will be taken up in the poultry breeding experiment this year.

The interest along English walnut and pecan culture has been increasing considerably during the past few years. Demands upon the Station for information along this line have been great. In the past the Station has not been able to take up this work in a systematic way. However, at the present time this problem will receive some consideration. Already the Station has planted an orchard containing eighteen varieties of soft-shelled pecans and twenty-two varieties of English walnuts obtained from different parts of the country. This large number of varieties will show which are the best adapted to New Mexico climatic and soil conditions. It has been suggested by different authorities on nut culture that New Mexico conditions are not very satisfactory for either pecans or walnuts, that perhaps the pecans from Texas would do a little better than those from other States; and that there is danger of the growth being winter injured. All of these questions will be investigated with the hope of recording definite data that may be useful to the prospective grower.

The small fruits investigation is now planned in a systematic way. In a new country one of the common questions asked by people is, "which is the best variety of this or that plant to grow?" This is a natural question to ask, especially since plants are so susceptible to variation according to the environment in which they are grown. Consequently, in the study of small fruits the Station is starting out with a large number of varieties to ascertain their adaptability to our climatic and soil conditions; also to find out their relative variations as regards phenological behavior. In these high altitudes the question of late spring frost is one that has to be considered. In any family of plants there are varieties which are exceedingly early in starting out in the spring, while others are medium late and still others are quite late. In most cases where all other conditions are favorable it is best to select the late blooming varieties. This question will receive particular attention in the study of all of the small fruits. The plantation contains 110 varieties of strawberries, 15 varieties of blackberries, 12 of raspberries, 4 dewberries, 6 gooseberries, 4 currants, Loganberries and Himalaya berries.

In order to get a large number of varieties together, it has been necessary to get them from all over the United States. Some of them came from California, others from Michigan, others from Maryland and still others from Texas. Aside from the mere study of varieties, some information will also be obtained in regard to the best place or source from which to secure them.

During recent years farmers in parts of the State have complained of some kind of a root disease killing many plants. In a preliminary investigation of the problem, this trouble has been found to be due to some sort of organism causing the decay at the roots of the plants. Any trouble affecting the root zone of the plant is a very difficult one to control or to remedy in any way. The Station will begin the investigation of this problem in a comprehensive way, in order to obtain information as to the cause, nature and control of this disease.

The Station, whose primary function is to devote its energies to the verification of experimental agricultural data, to the determination of agricultural facts and principles affecting the agricultural practice in the State, and to the publication and distribution among the people in the State of the experimental and research data obtained from its investigations, is now in position to take up the investigation of a number of problems that it has not been able to investigate in the past.

# Engineering Extension Work

## The Drainage Situation in the Mesilla Valley

The situation regarding the need for drainage of the irrigated lands of the Mesilla Valley has become serious in some parts of the Valley, and many of the farmers are looking forward to the taking of such steps as will finally remedy the situation. There is much discussion going on among the farmers as to the causes for the rise of the water table and as to plans for a drainage system. This problem, at best, is a difficult and sometimes perplexing one, even to the expert drainage engineer.

The real causes for the serious rise of the water table can only be established by a thorough and comprehensive investigation, involving extended surveys and studies of the movement of the ground water throughout the Valley.

Although the main work of the U. S. Reclamation Service in the Valley has thus far been the planning and construction of an adequate irrigation system, their intention seems to be that the work of providing a drainage system for the Valley shall be immediately started and prosecuted to completion; in which case, the farmers may be assured that the situation will be well taken care of. The completion of a system adequate to handle the situation for all time, however, will probably require several years' work.

An adequate investigation would undoubtedly show that, in general, the causes for the rise in water table could be grouped under three heads: (1) Seepage losses from the earth canals and ditches, which may be larger than many people realize; (2) losses due to wasteful and poor methods of irrigation (this would include losses due to deep percolation and surface waste at end of checks and borders); (3) seepage flow from the river, affecting especially those areas below the elevation of the river or of very nearly equal elevation. The question will naturally arise as to the reason for the fact, which seems to be true, that the water has risen so much faster and higher, perhaps, the last two years than in previous years. From what study the writer has been able to make of the situation, the reason may be undoubtedly placed in the fact that in the last two or three years the canals have been kept full of water—practically clear water a good portion of the time—and the land has been irrigated almost without interruption throughout the growing season; while in former years before storage was started, the canals were empty and very little if any irrigation was done during a considerable part of the growing season, varying with the length of time the Rio Grande had no flow. The water was usually very muddy, and the percolation was comparatively slow. If records of the height of the ground water table were available for previous years they would doubtless show for every year of record a considerable rise of the water table beginning shortly after irrigation was commenced and lasting throughout the irrigation season; after which the period of no irrigation, when no water was available, would cause the water table to recede to its more normal level. But with the practice of more continuous irrigation with water available, there would not be time for the water table to recede, and hence by degrees it has reached its present serious level. It may also be pointed out that, whereas in previous years the fact of the Rio Grande being practically dry during a large portion of the year naturally facilitated the movement of the ground water toward the river, thus draining off the accumulations from seepage and wasteful irrigation and allowing the water table to recede, the last year of two have seen the Rio Grande with almost no period when there was no flow, and hence for those areas of about equal level, or somewhat lower, than that of the river, the ground water flow would be away from the river, rather than towards it, and hence result in an accumulation of ground water under such areas, and a corresponding rise in the water table. Indeed the whole movement of the ground water which is in general toward the river, and parallel thereto, would be backed up and retarded in its motion from all the lands in the Valley, with continuous flow in the river. These factors, then, of a longer and more continuous period of irrigation throughout the year, with canals running full, clearer water, and more continuous flow in the Rio Grande, all together would undoubtedly account for the higher level and faster rise of the water table in the last two years, more or less.

Conditions in the Mesilla Valley, as regards need for drainage in connection with irrigation, are not unique to this region. Nearly every irrigation project in the United States has come to the same necessity. The obvious and best way to handle the situation, providing the U. S. R. S. does not intend to go ahead with the work, and that which has been and is now being used successfully in many projects, is the formation of a drainage district under the State laws of New Mexico. Such a procedure is being used in one or two other sections of the State. Such a district would probably embrace the whole Valley and include a very considerable part of the irrigated land. By such an organization, a competent engineer would be employed to make a comprehensive and detailed investigation of the whole problem, leading to the design of a drainage system which would effectively handle the situation; after which the voting and sale of bonds for the district would provide funds for the construction of the system. The farmers of the Valley are pursuing the proper course in taking an active interest in the matter, as the situation is a serious one, involving a considerable percentage of the irrigable land.

R. MATTHEW,
Head Dept. Irrigation Engineering

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### Water Proofing Cement

For some purposes such as the building of tanks, it is very important to have a water-tight concrete. However, in discussing this subject a distinction should be made between seepage through holes and leakage through cracks. It is my intention to speak of the first only.

In order to understand the subject it may be well to distinguish between porosity and permeability. Porosity is measured by the percentage of voids, i. e., the interstices between the particles, while permeability is measured by the amount of water that will pass through the material in a given time under specified conditions.

Because the percentage of voids is high does not necessarily mean that the concrete is permeable; neither does a low percentage of voids always mean that the concrete is impervious. In the first case, the voids may be small and not interconnected, which results in an impervious concrete. It is safe to say, however, that the denser the concrete, the more impervious. This brings us to the best method of rendering concrete water tight, i. e., by properly grading the ingredients so as to make the most dense concrete.

It is difficult, however, under ordinary circumstances, to make the proper sieve analysis to determine the proper proportioning of the ingredients; but a few general rules may help to obtain good results. 1st. The greater the proportion of cement, the less the permeability; usually if the materials are fairly well graded, cement equal to 12 to 15 per cent by weight of the dry materials will give a water-tight concrete. 2nd. Gravel produces a more water-tight concrete than broken stone. 3d. The larger the maximum size of the aggregate (the gravel or broken stone) the less the permeability. 4th. Wet concrete (that is, wet enough to quake freely like jelly) makes the denser concrete. 5th. The more thoroughly the concrete is mixed the denser the concrete. In order to secure the best results the concrete should be laid in one continuous process, or if this is impossible, great care should be taken to join the fresh concrete with that already laid.

The proportions used to render concrete proof against percolating water are from 1:1:2 to 1:2½:4½;1:2:4 being the most common. However, with a careful grading of materials a much leaner mixture can be used.

By troweling the surface of concrete, it is possible to render it almost absolutely water-tight. This, however, is not applicable to vertical walls.

A very common method of making concrete impervious is by the addition of hydrated lime. It is cheap, easily obtained, and easily mixed with the concrete. If dry hydrated lime equal to about 8 per cent of the weight

**of the dry cement be added for a 1:2:4 mix, or 12 per cent for a 1:2½:4½, the concrete will be rendered water-tight under a pressure of 60 pounds per square inch.**

**Another method, more expensive however, but equally satisfactory, is to dissolve in the water used for the mixture one part by weight of alum and 2.2 parts of hard soap. This weakens the concrete slightly, but renders it practically impervious. This method has been in use for a great many years.**

G. P. STOCKER,
Dept. Civil Engineering.

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## QUERIES ON THE NEW MEXICO PINTO BEAN.

Since we wrote the first appeal to name our commonly-called Mexican Bean the New Mexico Pinto Bean, we have received many letters from Colorado, Texas, California and from all over this State, asking many questions regarding this, our most important bean.

Some of the questions are:

Are these beans what we call frijoles?

Do they grow on irrigated land?

Are they better than the California Yellow bean?

Is there a market for them?

Where can one get the seed?

Are they cultivated and cared for like frijoles?

How far apart are they planted?

How many pounds are planted to the acre?

What is the best soil for them?

Do they shell at the time of harvesting?

What is the average yield?

And many other questions.

I have written many letters answering these questions and thought that I might as well make a collection of them and give it to the farming public.

The New Mexico Pinto Beans are natives of New Mexico, and they are, as the name implies, Pintos; that is, they are of a creamish color mottled with dark brown. Ninety per cent of the beans grown in New Mexico are of this kind, so that by giving them a distinct name we may know exactly what kind of frijoles they are.

Frijoles is the Spanish for beans; but beans are beans, and heretofore the kind of bean that the natives all raised has been a New Mexico bean; but there are numerous varities.

These Pinto beans do well under dry-farming conditions, and for that reason the farmers seem to have unconsciously planted more of them; they may yield a little more under irrigation, but due to the high cost of irrigated lands and to the abundance of cheap dry land, they can be raised much more economically on the dry land and we do not recommend growing them on the irrigated lands.

As far as we know, nothing had ever been done for the selection of the best beans of this variety for seed; but this year we have taken the common Pinto beans and selected from them a uniform type; we have emphasized the fact that one white bean in one pound of Pintos is sufficient to spoil the whole, and so 15 white beans will be sufficient to spoil the sale for seed of the crop from one acre of land. This year we employed as many as six boys in picking every bean which was not true to color and type; it has cost us from 90c to $1.00 for picking each hundred pounds, and so the beans which we bought for $4.50 per hundred were sold for $6.00 after they had been picked, and the farmers were glad to get them for that price. Any of the common Pinto beans will do for seed this year, if hand-picked.

All of the beans that were put out in San Miguel County for seed were sold at from $4.50 to $6.50 per hundredweight.

These beans require no more cultivation than any other variety, but of course, since they have been grown under dry farming conditions, they generally have to be cultivated more, not because they need the cultivation, but because they need the moisture.

They should be planted the same as any other bean which is planted under dry land conditions.

The farmers in San Miguel County plant their beans in three ways. One way is: A boy or a man drops the beans behind the plow; two more rounds with a plow and the boy drops the beans in the furrow again; this is the crudest method of planting them. They are generally planted too close; in fact, the native farmers, many of them, use twice as much seed as they should. This method of planting requires 30 pounds to the acre.

There is the "check" method, where the rows—30 inches apart—run uniformly in both directions.

The last method is where they are planted with a bean planter; they are drilled from 10 to 12 inches in the furrows which are from 36 to 42 inches apart. Perhaps this last method is used more than any other, for in this way a man may plant as many as ten acres in one day with a good drill.

It should take from 15 to 18 pounds per acre.

As to the quality of the soil for the beans, we might say that like most other leguminous crops, they are adapted to almost any kind of soil; but in San Miguel County the best soil for beans is the sandy clay, which gives the texture to the soil and at the same time is retentive; all that beans want is soil that is not too heavy, and moisture, and a little attention, of course.

These beans are perhaps superior to all others for not shelling at the time of harvesting, and that is one reason why the bean has become so popular; besides their being so drought resistant.

We have had an area of 42 acres of land measured and the beans raised in this area weighed, giving us an average of 675 pounds to the acre.

The reason that we consider the planting of the New Mexico Pinto Bean most profitable is that it is becoming known outside of our State; as we have said before, it is known in Michigan, in Illinois, in New York, in Galveston, and even in Belgium; while the other varieties of beans, though they may sell locally for better prices at certain times, would not stand the chance of being sold in carload lots that the New Mexico Pinto Bean will.

M. R. GONZALEZ,
San Miguel County Agriculturist.
Las Vegas, N. M.

## PRESERVING EGGS.

Now that the season of incubation is past, all male birds should be confined away from the hens, in order that infertile eggs may be produced for market purposes. The advantages in quality of infertile eggs over fertile ones are manifold. It is a positive fact that the keeping power of infertile eggs is always greater than that of fertile eggs, and more so at this time of year on account of the increased temperature. At 70° F. the germ of a fertilized egg will begin to develop; at a constant temperature of 90° to 103° F. incubation will proceed in a normal and natural manner. Infertile eggs will not germinate or produce chick development under any condition. The enormous advantage of infertile eggs for immediate use and for preserving purposes is therefore readily apparent.

The art of preserving eggs is one that is neither new nor difficult, and is one that may be used advantageously by every economical housewife and thrifty farmer. For centuries the Chinese have preserved eggs by the crude method of plastering mud and ashes over the eggs. In recent years a great amount of experimenting has been done in an effort to determine the most satisfactory and economical preservative for home use. The theory is based on excluding air from the contents of the eggs and thereby preventing the growth of decomposing micro-organisms within the egg. The preservative determined upon by a number of experimenters as the best for home use is sodium silicate, which is commonly known as water glass.

Water glass is a heavy or thick straw-colored liquid, and may be purchased at a reasonable price from any druggist. Many factors enter into the price demanded. Quality, quantity, and the degree of desire the merchant has to become wealthy are the three governing factors. In barrel lots it may be purchased at from 20 to 30 cents a gallon. In five-gallon cans it should cost from 45 to 70 cents a gallon. By the gallon it may cost as high as two dollars. There is much water glass on the market that is not good. Good water glass is but slightly alkaline, while poor water glass contains an excessive amount of alkali, which deteriorates the shell of the eggs to a point where it is so thin it is likely to break in the jar. To overcome the excess of alkali, from a teaspoonful to a tablespoonful of vinegar should be added to the water glass. In making the preserving solution from 10 to 12 parts of water that has been boiled and cooled should be used to one part of water glass.

For a receptacle in which to pack the eggs, nothing better than an ordinary three- or five-gallon stone crock can be used. However, wooden buckets or kegs may be used with entire satisfaction. The vessel should be thoroughly scalded and placed in the position in which it is to remain before the eggs are put into it. The eggs should be stored in a moderately cool, well ventilated cellar or room.

The ideal egg for preserving, besides being infertile, should be naturally clean and not washed clean, free from checks or cracks and not over seven days old. The eggs should be carefully packed in the jar until it is filled to within an inch or an inch and a half of the top. The solution is then poured over the eggs till they are completely covered. Place a cloth cover and then the lid of the vessel over them. From time to time look at the eggs to see that the liquid has not evaporated and allowed the top eggs to become exposed to the air. Should such an occurrence happen, pour enough boiled and cooled water into the jar to completely cover the eggs.

In general this completes the operation. However, there are a few other points to which attention should be called. A white precipitate, which is silicic acid, forms in the jar. This is a poisonous substance, but there is absolutely no danger from it if all eggs are washed before using. To boil water glass eggs, a pin hole should be made in the large end of the egg, to allow for expansion of air. Normally the shell of an egg is porous, but when preserved in water glass it is sealed with a thin coating of glass, which is identical with window glass and which makes it necessary to make an escape for the air when boiling the egg. The hands should be kept out of the solution, as it will make them rough and sore. One cracked or checked egg will flavor the entire lot. An egg that has started to spoil will continue to spoil if placed in the preservative. It is not necessary to put all the eggs in the same day. Some may be put in one day and covered and others added as they are obtained. Eggs that have been preserved in water glass are desirable for all purposes up to eight to ten months of preservation, after which the albumen becomes thin and they are not entirely satisfactory to fry; otherwise they may be used with complete satisfaction. Eggs have been used after remaining in preservative four years. Do not try to use the solution twice. One gallon of water glass will preserve about thirty dozen eggs.

R. B. THOMPSON,

# The Home Department

Edited by GAIL RICHIE,
State Demonstrator in Home Economics.

## THE MAKING OF JELLIES.

Since only the juice of the fruit is used in jelly making, the food value of the product is not high, considering the amount of money and labor expended. Fruit jellies, however, are among the most beautiful of table dainties, and almost every housekeeper makes a number of glasses each year.

Ideal fruit-jelly as described by Miss N. E. Goldthwaite of the University of Illinois, is a beautifully colored, transparent, palatable product obtained by so treating fruit-juice that the resulting mass will quiver, not flow, when removed from its mold; a product with texture so tender that it cuts easily with a spoon, and yet so firm that the angles thus produced retain their shape; a clear product that is neither syrupy, gummy, sticky, nor tough; neither is it brittle and yet it will break, and does this with a distinct, beautiful cleavage which leaves sparkling characteristic faces.

### The Cause of Jellying

The jellying of a fruit juice is due to the presence of a substance called pectin that has the properties of the familiar gelatin. This pectin occurs naturally in many but not all fruits, causing the juices to jelly, and is more abundant when the fruit begins to ripen. Pectin will not act unless an acid is also present.

The fruits that are rich in the pectin and acid, and therefore easily jellied, are green or partly ripened grapes, currants, plums, crabapples, sour apples, huckleberries, blackberries and raspberries. Peaches, quinces, pears and sweet apples contain large quantities of pectin, but an insufficient amount of acid to cause the jelly to form. However, jellies can be formed from these fruits by the addition of tartaric or citric acid to the juice. One level teaspoon to a quart is usually sufficient, but much depends upon how acid the fruit is in the beginning. Stir to be sure that all acid crystals are dissolved, then taste the juice. It should be about as acid as the juice of good tart apples.

Miss Goldthwaite discovered that the white inner peel of the orange and lemon contains a large amount of pectin. If these peelings were saved they might be used to advantage in jelly-making. The yellow part contains the bitter principle and should be removed before boiling the white to extract the pectin.

Test for the presence of pectin in fruit juices: Place in a glass one or two tablespoons of the juice to be tested and an equal amount of grain alcohol.

Mix thoroughly and cool. If pectin is present a gelatinous mass will form in the liquid, which may be lifted up on a spoon. It will be noticed that different juices contain different proportions of pectin. This fact accounts for the great difference in different fruits for jelly making.

### Extraction of Juices from Fruits.

#### (a)—Very Juicy Fruits.

Place clean fruit in an enameled preserving kettle, add just enough water to prevent burning, cover, place where fruit will cook rather slowly, stirring occasionally to prevent burning. When simmering point is reached crush fruit and continue heating until the whole mass is cooked through. Transfer the fruit to a jelly bag made of flannel or cheesecloth and let the juice drain into an earthenware or enameled receptacle. Do not squeeze the bag, as this will cause some pulp to come through and make the jelly cloudy, besides forming a scum which must be skimmed off afterwards during the cooking.

#### (b)—Less Juicy Fruits.

Wash the fruit, discard unsound portions, cut into small pieces, cover with water and proceed as in case of very juicy fruits.

When Extraction I of either very juicy or less juicy fruits is pretty well drained out, transfer pulp to preserving kettle, cover with water, stir until well mixed, cover, bring slowly to boil as before, drain again. If, when tested with alcohol much pectin has been obtained, make a third extraction.

Sugar, while not essential to jellying, has an effect on the amount and quality of jelly that can be made from a given amount of juice. The addition of sugar causes jellying to take place with less boiling down of the juice than it otherwise would, and up to a certain amount improves the quality of the jelly. Too much sugar spoils the texture and if in large excess gives a thin syrupy mass. Too little sugar makes the product tough. The proper amount depends upon the quantity of pectin in the juice. For instance, with one cup Extraction I from grapes could be used one cup sugar; with one cup Extraction II, which contains less pectin, use ¾ cup sugar.

It is well to add the sugar after the juice has cooked about one-half the time required for the making of the jelly. This prevents waste of sugar during the process of skimming. To prevent cooling the juice by the addition of so much material at once, the sugar should be warmed before it is added to the juice.

### Making the Jelly.

From two to four cupfuls of juice are put into the preserving kettle and set over a brisk fire, so that it may heat as rapidly as possible. As soon as boiling begins, the time is noted and when one-half the total number of minutes required to cook the jelly (see below) are up, the sugar is added and cooking continued, with occasional stirring to dissolve the sugar for the remaining time.

### The Jelly Test.

Take up a little of the hot juice in a spoon and allow it to flow slowly back into the kettle. When the boiling mass "jellies," sheets off, or breaks off, as a portion of it drops from the stirring spoon, the jelly may be considered done. This is a quick test, and therefore a much better way than the time-honored one of taking out a portion of the hot jelly and allowing it to cool to see if it jellies, for while this cooling process is going on unfortunate things may be happening in the saucepan. Time is too precious at this point to wait for any cooling of samples; when the jelly is done no time should be lost in removing it.

### Time of Boiling.

Juices rich in pectin require about ten minutes boiling; those containing less pectin need twenty to thirty minutes. A mistake often made is to cook the juice too slowly. The boiling should be rapid. Too long heating destroys the pectin.

### Covering the Jelly.

There are many ways of covering jelly. The object is to protect from molds and insects, and to prevent the jelly from drying out or absorbing water. The jelly may be brushed with alcohol and covered with hot paraffin. A tin cover may be used or paper pasted over the jar. It is well to label the jelly.

### Canning Fruit Juices for Jelly.

When sugar is cheaper in winter than in summer, it is more economical to can the juice in fruit season and make the jelly later in the year. Also, it makes it possible to work under easier weather conditions and storage room is saved as the juice may be stored in large receptacles which take up less space than do a large number of glasses. Time is saved because more jelly can be made in a day if but one of the operations required in jelly making is needed. Some think the jelly has a better flavor than when stored for several months.

Many varieties of flavor may be made by a judicious blending of fruit juices.

Apple jelly, because of its delicate flavor, lends itself admirably as a basis for other flavors. A few mint leaves tied in a cloth and cooked with the jelly gives a mint jelly suitable for serving with meat.

### Grape Spiced Jelly.

1 cup grape juice.
1 cup sugar.
2 teaspoons vinegar.
1 teaspoon cinnamon.
1 teaspoon cloves.

### Score for Jelly.

| | |
|---|---|
| Color | 10 |
| Transparency | 20 |
| Taste | 25 |
| Consistency — hold shape, not flow | 15 |
| tender, will cut easily | 15 |
| firm, angles retain shape | 5 |
| No sign of crystallization | 10 |
| | 100 |

### Fruit Juices.

The preparation of fruit juices takes little time or skill, yet there is nothing more refreshing on a hot day than a cold fruit juice, which can easily be prepared if the juice has been bottled at the proper season. The fruit juices may be used in preparation of such foods as ices, ice creams, gelatin desserts, puddings, sauces, etc.

Not only grapes but any juicy fruit may be used. The juice may be extracted in the cold, by a fruit press or the fruit may be cooked and the juice extracted as in jelly making. The juice may then be put into bottles, sterilized, securely corked, sealed and labeled.

### Orange-Rhubarb Marmalade.

5 pounds rhubarb.
8 oranges.
8 cups sugar.

Cook rhubarb and oranges until reduced to a pulp. Add sugar and continue cooking until desired consistency is obtained. Stir often to prevent scorching.

### Sun Preserves.

This method is especially desirable for soft fruits, such as strawberries, that are likely to lose their form in cooking on the stove where stirring is necessary. The sun gradually concentrates the syrup, no stirring is necessary, and the low heat is not sufficient to change the color. If the fruit is not heated up with the syrup before it is put in the sun, it may shrivel, because the very thick syrup will draw out the water but will not be able to get into the fruit to take its place. A short cooking makes it possible for the fruit to absorb the syrup.

Select ripe, firm berries. Pick and preserve the same day. Hull and rinse. Place in shallow platter in single layer, sprinkle sugar over them; pour over them a thick syrup. Cover with a glass dish or plain window glass, but not tight enough to prevent evaporation of moisture. Allow to cook in hot sun 8 to 12 hours. Pack in glass jars or cups; tie paper over tops or cover tops with paraffin. Keep in a cool, dry place.

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# Boys' and Girls' Club Work

W. T. CONWAY, STATE AGENT

### FOLLOW-UP CLUB WORK.

The period for organization of Boys' and Girls' Clubs closed the first of April, but some localities have organized since that date. Bad weather in the high altitudes prevented the Club workers from covering the field as soon as they had planned.

The total enrollment for February, March and April reached a little beyond 2400. This was double the number expected at the beginning of the year, owing to the effective work of Mr. Toulcuse—the Assistant State Leader in Club Work.

Organization is important. A beginning must be made. People must become acquainted with the Club work and the fundamental principles in agriculture and home economics for which the Club work stands. Boys and girls must be made to see the wonderful opportunities open to them for learning to do practical, every-day things that will yield a net profit when done well. Men and women must realize the great advantage there is in "learning to do by doing," and be persuaded to become local leaders for the boys and girls of their community. All this is particularly stressed during the organization period of the work.

But there is a great deal more to successful Club work than simply starting it. The very best piece of machinery will not run long without some attention. The happiest and best regulated family must have a head that directs and correlates the efforts of its members. A Boys' or a Girls' Club must have a leader, and this leader must follow up the work begun at the organization. This is the work now being done by State and local agents,—follow-up work.

There is no other way to make the Club work count for anything worth while. It can be likened to a farmer who prepares his ground and plants his crop. If he quits at that, failure will be his portion. He must cultivate, weed-out and water, if he expects anything like a reasonable harvest. So it is with the Boys' and Girls' Club work. Children as well as older people grow weary even in "well doing," and many of them "faint" before the harvest time. The follow-up work is refreshing for every Club member, weary or otherwise, and it restores lost courage, strengthens weak methods and brings assurance to the faithful. It revives the spirits of a boy or girl just like the gentle shower renews the wilted plant or the cool clear stream revives the famished animal.

To be of the greatest practical value to the Club members the follow-up work should be adapted to the present needs of the Club worker by the Leader. The best follow-up work comes in touch with the Club member and the project, not when the member is away from the project but when actually engaged in working out some part of the project. Instruction and help come, largely, through actual demonstration. If the club member is raising chickens the Leader helps by showing how to make feed troughs, drinking fountains, brooders, sanitary coops, foods and rations, all of which are useful in raising a healthy flock. If the member has a pig, the demonstration will pertain to sanitation, comfort and convenience of the pig's quarters and the daily ration that will make it gain, giving good returns for its feed and care. If the project is a field crop or a garden, the demonstration will be in season for the growing of that particular crop. Reasons will be given for the methods used, so that the Club worker may do his task intelligently. Then drudgery ceases and labor become a joy and produces a profit.

The State Leader in Club Work has recently made a tour of follow-up work in Otero and Lincoln Counties. Some Club members were discouraged because of failures, and others were delighted with their success. These conditions are both natural and are to be expected. There is as much, or more, pleasure in helping the failing member to success as there is in sharing the joys of the fortunate member. The courage and progressive spirit of most of the members were very gratifying to the State Leader. Success is already crowning the efforts of the faithful; and very few of the members are giving up the work. The Local Leaders are to be commended for the optimistic spirit that prevails. They are sure to be rewarded by the success of faithful Club members.

In Otero County were found 150 live chicks and many more expected. Several pigs are making steady gains, the gardens are started and 35 girls are engaged in Cooking and Sewing projects. In Lincoln County, where the Clubs were the last to be organized, about 30 girls are engaged in home work and are making good progress, a few are making gardens, 90 live chicks were reported and ten pigs were found making substantial gains. Four corn crops have been planted and several more are ready. Ten inches of snow had fallen over most of this territory just a few days before the State Leader visited it. Crops, gardens and orchards were retarded, nipped or killed completely; yet the Club workers were hopeful and were repairing their losses as fast as possible.

## MONTHLY REPORTS.

The monthly reports are coming in very nicely. These indicate the progress of the Club work. Where a Club fails to make some report for two successive months we conclude that that Club has disbanded. It is then dropped from our list.

Be sure to have your secretaries make monthly reports.

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# THE NEW MEXICO FARM COURIER

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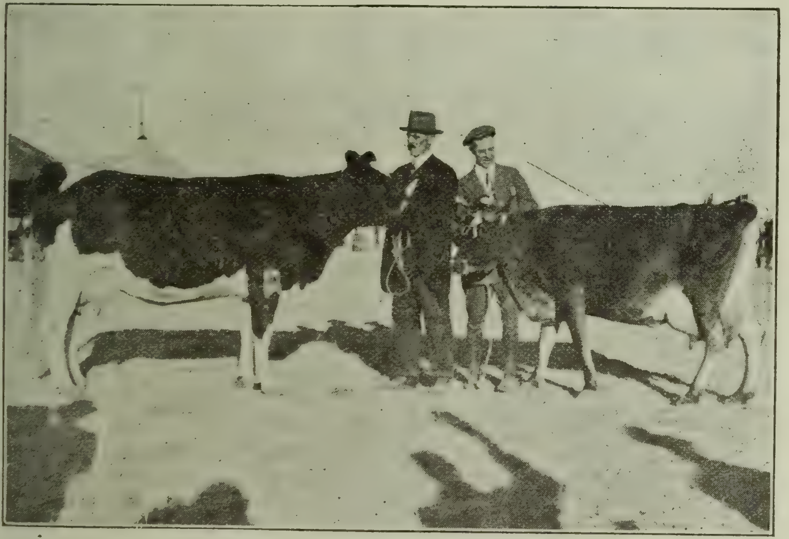

Champion Holstein and Jersey Cows, Roswell Fair 1915

Also State Champions in Their Classes for Milk and Butterfat Production, on Official Test.

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## WHO IS A COUNTY AGENT?

A county agricultural agent is not a farmers' adviser, as is oftentimes thought, but on the other hand, is a collector and distributor of valuable information along agricultural lines. He is a general carrier of the best farm practices from one farmer to another. He is in a position to furnish or secure for his farmers and others information on any agricultural problem which may arise. He aids his farmers in securing better seed, better livestock, and better markets. He helps them in eradicating plant and livestock diseases. Information regarding the construction of all farm buildings can be secured through him. He is willing at all times to serve his constituents. His service is without charge. By the aid of specialists from the State Agricultural College, he conducts demonstrations and short courses along agricultural lines, which are of particular interest to the farmers living in the locality in which these demonstrations and short courses are given. Through him the boys and girls of the county are organized and taught the fundamental principles of agriculture and home economics. One of the main objects of his work is to help increase the net income of the farm.

A county agent is a man well trained not only in the science of agriculture, but in its practices, as well, and one who has many sources of information at his disposal. It might be said that he is the connecting link between the farmer, the State Agricultural College and the United States Department of Agriculture. He works solely for the best interests of the farmers. County agents are employed cooperatively, and are joint representatives of the county, the College, and the United States Department of Agriculture.

Counties wishing to secure the services of such a man may do so by their commissioners' entering into contract with the State Agricultural College and appropriating $1600 per year, the balance being provided by the Government and State. It requires in the neighborhood of $3,000 per year to finance a county agent, the exact amount, of course, depending upon the salary it is necessary to pay the man. The entire supervision of the work is vested in a State Leader appointed jointly by the United States Department of Agriculture and the State Agricultural College.

Sometimes there is a mistaken idea that the county agent is selected by the county commissioners. The selecting and appointing of the man is left to the Agricultural College; not to the counties. The several counties in New Mexico having county agents are well pleased with the work being done by these men, and consider it one of the best investments of county money, inasmuch as it is work that benefits all, directly or indirectly. All wealth and industry depend upon our agricultural resources and their development.

Any county desiring a man may communicate with the Extension Director of the New Mexico College of Agriculture and Mechanic Arts. He will be glad to answer all inquiries, and if desired, will visit the county and go over the entire proposition in detail with those interested.

## FARM MANAGEMENT DEMONSTRATIONS

In any community there are examples of profitable and unprofitable farms in any year. Since all of the farm operators in this community had similar conditions as regards soil, market, weather, etc., to work with, it is evident that the difference in profits must be due to differences in efficiency of the methods used in managing the business.

In order to be considered profitable, the farm should pay all the operating expenses, a fair rate of interest on the capital involved, and also a reasonable amount for the operator's labor and management ability. In addition to this, the system of farming followed should be such that the fertility of the soil will be maintained. The amount the operator of the farm has left at the end of the year as pay for his work is called the **Farmer's Labor Income**, and is the standard of comparison by which the profitableness of the farm is measured. In addition to this labor income, the farmer has the products such as meat, milk, vegetables, etc., which the farm has contributed toward the family living.

In principle, farm management demonstration work does not differ from any other type of extension work. It is only carrying into the field information on a different subject. In conducting these farm management demonstrations, limited areas in the various counties are selected by the County Agents. These limited areas are chosen as representing larger areas in which very similar conditions exist. The County Agent, assisted by the State Farm Management Demonstrator, secures a business record for the past year from each of fifty or more farmers in the area selected. This business record, which is entirely confidential, consists of information pertaining only to the farm business. From these data, the farmer's labor income is computed, and each business record is analyzed with special reference to the sources from which the labor income is derived, and the factors or conditions which influence it. The average of all the farms in the community in regard to the factors affecting the labor income is then secured. The business of each farm with respect to these factors is then compared with the average of all the farms in the community and with the average of the better farms in the same community. This comparison, and a summary of the year's business, are made in such a way that when taken back to each individual operator he can readily see where his farm business stands in comparison with that of his neighbors who have worked under similar conditions the same season. By this comparison the farmer is also enabled to see the strong and weak points in his farm organization for the year.

Farm management demonstrations are not to be confused with farm management investigations. Among other things, the purpose of the investigation is to determine general principles of farm management and ascertain the best system of farming for any given section. The purpose of the farm management demonstrations "is to demonstrate to farmers in connection with their own farms a practical and efficient method of summarizing and analyzing a farm business as a means of measuring the profit or loss incurred in conducting it, and deciding upon readjustments that promise to increase its net income." It is just as essential that farmers keep a record of their farm business, summarize this record at the close of the year, analyze it, and learn of existing weaknesses, and to make readjustments in the farm business on the basis of such an analysis, as it is to prepare a good seed bed before seeding crops.

Individuals or communities desiring to know more regarding this work, and how such a demonstration may be carried on in their community should consult the local County Agent.

W. L. Elser.

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## VARIATIONS IN MILK TESTS

The percentage of fat in normal, whole milk may vary greatly as compared with the other constituents of milk. Some authorities report that the fat content of normal milk may vary from 1.05 per cent to 12.50 per cent. These figures represent the extremes, however, and are very abnormal. The fat content of milk as it is placed on the market is generally from 3.5 per cent to 4.5 per cent. Most of our large cities enforce ordinances which control the per cent of fat in milk, and the milk placed on the market must not test below the required fat percentage. Further, it must be up to standard in that it is produced by tuberculin tested and non-reacting cows which are managed under strict sanitary conditions.

There are many reasons why the fat content varies so widely; however, the following are the chief factors which cause the fat percentage of milk to vary:

A. Breed of cows.
B. Individuality of cows.
C. Manner or method of milking.
D. Regularity of milking.
E. Sampling either fore or after milk.
F. Age of the cow.
G. Physical condition of the cow.
H. Lactation period.
I. Feed and management.
J. Environmental conditions.

A. BREED OF COWS. There is a great difference in the milk produced by different breeds of dairy cows. This is best demonstrated, perhaps, by comparing the Jersey and the Holstein breeds. Jerseys as a breed secrete a smaller amount of milk but a much higher per cent of fat than the Holstein. The Holsteins produce a large amount of milk which does not test as high in butter fat as that secreted by the Jerseys. These are facts with which most farmers are familiar, and should be considered when selecting a particular breed of cows.

B. INDIVIDUALITY. It is a well known fact that milk from different cows of the same breed will vary, also that a cow may secrete a small amount of very high testing milk, or a large amount of low testing milk. If the value of fat were taken into consideration, a cow of the former qualifications would prove more profitable than one of the latter class in most instances. It is generally considered that the yield of fat is a better standard by which to determine the value of a cow than the quantity of milk. Therefore, a cow with a yearly record of 8000 pounds testing 3 per cent would not be as profitable as a cow whose record for the year is 6500 pounds of 4 per cent milk.

C. MANNER AND METHOD OF MILKING. By far the most satisfactory results are obtained when a cow is milked as rapidly as possible, and in a manner that will not excite or injure the animal. Dry hand milking is always preferred to the wet hand method, because it is far more sanitary. Some dairymen require their milkers to spend a little time in manipulating the udder before and after milking. This excites the secretory glands and the extra milk usually pays for the extra time required for manipulation.

D. REGULARITY OF MILKING. The intervals between milkings should be equalized and made as uniform as possible. Most dairymen follow the practice of milking every twelve hours. They begin milking at exactly the same time each morning and evening, and arrange their cows in a regular order, so that each cow is milked at the same time each day. It has been demonstrated that by milking a cow three times a day the yield of milk will be increased, but generally speaking the extra amount does not pay for the time and trouble.

E. FORE AND AFTER MILK. The first milk drawn from the cow's udder, or the fore milk, does not contain as much fat as that drawn later in the milking process. There are three reasons given for this by authorities on milk production, viz., the milk in the lower portion of the milk cistern and in the teat is in such a contion as to permit creaming to proceed; secondly, the large fat globules are about as large as the milk ducts in the cow's udder and may be obstructed in their downward passage; thirdly, the fat globules that may reach the lower portion of the milk cistern, or even the teat, are susceptible to reabsorption by the lymphatics. Therefore, the cow must be milked dry if all the fat is to be obtained.

F. THE AGE OF THE COW. Generally speaking a cow is at her best at the beginning of her third lactation period, because at that stage of her career she has reached maturity and all her energies are exerted towards milk production. If careful records are kept of the fat content of an individual cow's milk throughout each successive lactation period, it will be noted that the fat content will increase in percentage. This is especially true within certain limits. After the cow reaches the age of eight or nine years the quantity and quality of her milk diminishes.

G. PHYSICAL CONDITION OF THE COW. The physical condition of a cow has a marked influence on the amount of milk and butter-fat secreted. If the animal is excited before milking she may give less milk but it will test higher than it would if drawn under normal conditions. If the cow is normal, her milk will be normal.

If the cow is in an abnormal condition in any way her milk will be abnormal and may test either high or low, showing a wide fluctuation in some instances.

H. LACTATION PERIOD. A cow's lactation period is her milking period —that is, from calving time until the cow is dried up. Generally the milk given the first few days does not test high, but after two or three weeks her milk becomes normal. As the cow advances in her lactation period she decreases in quantity but increases in quality.

I. FEED AND MANAGEMENT. All dairy cows should receive their food in the form of a well balanced ration. The fat content is not influenced to any marked degree by the kind of feed given the animal; however, the quantity of milk is materially affected by the amount and kind of feed fed the cow. Roughage is generally cheap and easily procured, but grains are high priced and for this reason some farmers refuse to feed grain to dairy cows. Special feeding will increase the amount of milk, consequently the pounds of fat will be increased and the cow will generally produce milk in large amounts when fed grain. The cost of grain and the value of the increased production should govern the advisability of grain feeding.

J. ENVIRONMENTAL CONDITIONS. A great many times dairy cows are compelled to withstand unfavorable environmental conditions, such as impure drinking water or a limited supply of water, sudden changes in temperature, and unsanitary surroundings. Some dairymen make the assertion that such unfavorable conditions may increase the fat percentage in the milk for a few days but if the conditions continue the fat content will decrease. Any abrupt change from the normal will tend to increase the per cent of fat in milk. A change of milkers, change of location, nervousness and sudden fright may each be considered as abnormal factors which affect the fat content of milk.

Farmers, as a rule, are familiar with the conditions affecting the variation in the fat content of milk, but the factors seem of so little importance that they are for the most part overlooked. Our most successful dairymen are those who have considered the factors mentioned above carefully and have put forth every effort to satisfy each condition by careful management, keeping the milk and fat records and by placing dairying on a business basis.

J. R. Meeks,
State College, N. M.

## GOOD CREAM IN HOT WEATHER

If the cream is to be kept first class in quality at this time of year, either for shipping or for making butter, considerable care must be given it. Cleanliness and cold are two great factors in making good cream. It is especially important that the separator be thoroughly cleaned after each time of use, and more attention should be given to cleanliness all along the line, from the cows and stable to the cream can or jar. Cream which tests high in butter-fat will keep better than thin cream. Cream for shipping or for making into butter on the farm should test about forty per cent fat, for best results.

Cool the cream as soon as separated by setting the cream can in cold water and stirring often till cooled. Never add fresh cream to older cream till thoroughly cooled, and then stir well so that the cream is uniform throughout. This is very important in keeping the cream smooth and free from lumps. Cold running water is the best place to keep the cream can, but as much of our water in New Mexico is not cold, or otherwise not available, the can should be wrapped in wet burlap, or set into a frame over which is hung wet cloths, thus forming an iceless refrigerator. Tests at the College have shown that a can which has been wrapped with two burlap bags, and these kept wet, is as efficient in keeping the cream cool as the manufactured refrigerator or "thermos" cans.

Good cream means good butter. Good butter means satisfied customers and good prices.

R. W. LATTA.

# THE TUCUMCARI FIELD STATION

During the years of 1910, 1911 and 1912 the State of New Mexico, largely through the efforts of the New Mexico Experiment Station, financed what was known as the Quay County Experiment Farm. This Station was located on a school section about three miles directly east of the city of Tucumcari. In the fall of 1911 the Federal Department of Agriculture decided to cooperate with the State of New Mexico at this point, and with this in view Professor J. E. Mundell was placed at Tucumcari by the Department, to take charge of the work.

During the winter of 1912 the Station site was moved to a point about two miles to the northeast of Tucumcari, where the water is better and the soil is more nearly typical of the soils found in the greater part of eastern New Mexico. This new Station is strictly a Federal institution, though the land is deeded to the New Mexico Agricultural Experiment Station and close and sympathetic relations are maintained with the latter institution.

The primary object of this Station, and of the twenty-two similar stations maintained by the U. S. Department of Agriculture, is to determine the best methods of tillage and the most suitable crop rotations for maintaining humus in the soils of the Great Plains area, under farming without irrigation.

In addition to the above, the Tucumcari Station is doing experimental work in testing the adaptability of various promising field crops to this section; in soil moisture work, which includes studies of the use of water by crops, penetration and run-off from rain and snow, feeding area of roots of crop plants, etc. Such weather observations as have an important bearing on crops are also made. It is the endeavor to keep a supply of pure seeds on hand, which are furnished to farmers at a minimum cost. In addition to the above, the New Mexico Experiment Station, located at State College, is cooperating with the Tucumcari Station each winter in conducting steer feeding tests; the object of such tests being to learn the relative feeding values of rations in one of which cowpea hay furnishes the roughage and the protein, and in the other, kafir stover furnishes the roughage and cottonseed meal the protein. Plans are also under way for the cooperation of the New Mexico Experiment Station in the field crop experiments and in the preparation of a bulletin of a popular nature on dry farming. The elevation of Tucumcari is approximately 4200 feet above sea level, and the average annual precipitation is about 16.48 inches.

The Station at Tucumcari is an Experimental Station in the true sense of the word. Several years are required to secure conclusive data along any of the lines which are under investigation, and until the experiments and tests which are now being conducted are carried on for several years more, no technical data will be published nor any dogmatic statements as to which are the best methods of farming in this section.

On the old experiment farm, no improvements were made by the Government, while at the present Station, sums amounting to nearly $40,000.00 have been expended for maintenance and operation, and such improvements as buildings, wells, fences and farm equipment.

On the present Station farm about 90 acres of land is in cultivation annually. Of this amount, approximately 45 acres is devoted to experimental work and the remainder to growing feed and grain for the station livestock and for the feeding tests which are conducted each winter. The experimental field is divided into 1-10 acre plots and each plot devoted to one experiment or one series of experiments.

## Conclusions From Tucumcari Investigations.

Investigations so far carried on at Tucumcari would lead one to believe that the method of handling the soil, for row crops, after the crops are planted, is of greater importance than the method by which the land is prepared, provided some good average method of preparation is used.

Rather than having any certain time for plowing or listing, present results indicate that this may be done profitably at the most convenient time of fall, winter or early spring.

On sandy soils, for row crops, listing seems to be the best and most economical method of preparing the land and for planting the crops.

For small grain crops, discing the land previously cropped to some row crop has been more profitable than preparing this land by plowing.

Deep plowing, that is, from six to eight inches in depth, seems to be better than shallower or deeper plowing. The nearer the planting season the land is plowed, the shallower should the plowing be done.

No system of agriculture can be permanently profitable and successful under New Mexico conditions unless cattle, sheep or hogs are raised in conjunction with the field crops.

From a study of the weather records and of the crop data already secured at Tucumcari, it is believed that under similar conditions profitable grain crops may be grown three years out of five and profitable feed crops nearly every year.

At the Tucumcari Station several hundred trees and shrubs have been set out and from the success obtained, it is recommended that every farmer set out at least a few trees and shrubs about his place, whether it will be possible to irrigate them or not.

For eastern New Mexico in general, it is believed that dwarf milo and dwarf kafir are the best grain crops; kafir, Sudan grass, sorghum and cowpeas the best feed crops and New Mexico Pinto Beans, broomcorn and cattle, sheep or hogs to be the best sources of a cash income. For more favorable localities and in the better years such crops as wheat, oats, barley, rye and Indian corn may be grown profitably.

### Conclusions from Other Dry Farming Experiment Stations.

Of the 23 Experiment Stations at which similar investigations are being carried on, 14 Stations have been conducting these tests for a sufficient length of time to be able to draw some reliable conclusions from the results obtained. These conclusions are applicable to the conditions found here. The results of these experiments were published during the winter of 1914-1915 in Bulletins Nos. 214, 218, 219, 222, 243 and 253 of the Bureau of Plant Industry of the U. S. Department of Agriculture; and in Bulletin 268 of the same Bureau, Professors Chilcott, Cole and Burr, who are the officers in charge of this work, have summarized all of the results obtained. The conclusions drawn by these officers are as follows:

"(1). When the climatic conditions are as favorable as those often experienced in all parts of the Great Plains area on all the types of soil represented at the 14 stations, profitable crops can be produced by any one of the several different cultural methods such as are in common use.

(2) When the climatic conditions are as unfavorable as those often experienced in all parts of the Great Plains on any of the types of soil represented, no profitable crop of any kind so far tested can be produced by any of the cultural methods that have been under investigation.

(3) Under the normal conditions prevailing in any part of the Great Plains for a term of 10 years on any type of soil represented at any of the stations, some crops can be produced at a profit when proper cultural methods are practised, provided that the prices of labor and of farm produce bear the same relation to each other as those which have prevailed during the last 10 years.

(4) No single crop tested in these investigations can be raised profitably in all parts of the Great Plains area on any type of soil by any cultural method so far tested.

(5) As forage crops of some kind can be profitably grown at all stations ,they must occupy an important place in any system of farming adapted to the Great Plains. Sufficient livestock must be kept to convert these crops into finished products on the farm, and sufficient forage must be produced and stored during favorable seasons to carry the livestock through specially unfavorable seasons.

(6) Good farming is as essential to success in the Great Plains as elsewhere. Good farming means practicing the best methods of producing the largest crops at the lowest relative cost of production and leaving the soil in the best condition for the production of subsequent crops. Good farming may involve methods either intensive or extensive, either expensive or inexpensive; and it must be practical and economical as well as scientific and thorough in order to be good farming. It is just as poor farming to go to too much expense as it is to go to too little expense to accomplish a given result. These investigations show that the largest net profits have usually been obtained from crops raised by cultural methods involving a low cost of production rather than from high yields obtained under methods involving a high cost of production. Lessening the cost of production without proportionally lessening yields should therefore be given first consideration. In other words,

extensive rather than intensive systems of farming should be followed.

(7) Different types of soils and different combinations of climatic conditions require different cultural methods and different combinations of crops to produce most profitable results.

(8) The personality of the farmer and his family; the size, location, soil and environment of the farm; market facilities and prices, the available capital, in cash, labor, or equipment, may any or all be determining factors in the problem of profitable dry farming in the Great Plains area.

(9) Dry farming in the Great Plains area, in common with all farming, to be successful must be systematized, and in order to accomplish this, some definite rotation of crops should be established. In planning such a rotation, due consideration should be given to all the factors here enumerated, as they apply to each particular farm and farmer. With these considerations clearly in mind, it is believed that no intelligent farmer will experience any great difficulty in adopting a system of crop rotation and farm organization that will be better adapted to his conditions than any that could be proposed by any one less familiar with these conditions than the farmer himself."

From the above conclusions it is shown that in the poorest years a profitable crop can be raised by no known method and that in the best years almost any method will produce a profitable crop. It is also stated that in average years profitable crops may be grown if the best known systems of farming are practiced.

In the above article it has been the endeavor to give, in a general way, an idea of what the Tucumcari Experiment Station is trying to do toward making this section of the Great Plains a region of profitable crop production.

While, as has been mentioned above, the Tucumcari Experiment Station is strictly an Experiment Station organized for carrying on investigations under rainfall farming, still it stands ready at all times to answer any inquiries in regard to its work or results which farmers and others may care to make.

H. G. SMITH,
Assistant in Dry Land Agriculture,
Tucumcari, N. M.

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## BREAKAGE OF JARS IN CANNING

When breakage of jars occurs it is due to such causes as—

(1) Overpacking jars. Corn, pumpkin, peas, lima beans, and sweet potatoes swell or expand in processing. Do not fill the jars quite full of these products.

(2) Placing cold jars in hot water, or vice versa. As soon as the jars are filled with hot sirup or hot water, place immediately in the canner.

(3) If top cracks during sterilization the wire bail was too tight.

(4) In steam canner, having too much water in the canner. Water should not come above the platform.

(5) Allowing cold draft to strike the jars when they are removed from the canner.

(6) Having wire bail too tight, thus breaking the jars or glass tops when lever is forced down—Office of Extension Work, North and West, U. S. Dept. of Agriculture.

## ALFALFA ON MESA SOILS.

There are thousands of acres of mesa or bench land soils in New Mexico that might be made to produce profitable crops, provided water could be secured at a reasonable price. This was one of the facts that influenced the New Mexico Agricultural Experiment Station to start a series of experiments in 1907 on the mesa soil. The tract of land used for this work is situated on the first mesa just above the valley. Various crops were tried up to the year 1913, with varied results. Since that time this land, which is divided into 48 small plots 1-18 acre in size, has been growing alfalfa. This crop was chosen because of its great importance in the State. At the present time all of the plots are supporting an excellent crop of alfalfa and are yielding five cuttings a year.

Since the soil was somewhat ununiform, the plots were divided into series depending upon the depth of soil over gravel. This was considered necessary in order to make the results comparable and more uniform. The alfalfa was sown in rows on some of the plots, while on others it was drilled in the usual manner. A few of the plots were left fallow. Different depths of water, varying from two to five inches, are applied to the different plots at each irrigation. The plots are irrigated every ten days, whenever the average total moisture content of the top six feet of soil falls below 7 per cent. To determine this moisture content, samples of soil of each plot to a depth of six feet are taken with a soil tube every ten days. These samples are then removed to the laboratory, weighed, dried in an oven, and the loss of moisture calculated. Seven per cent was chosen as the minimum moisture content that the plants could stand without being detrimental to their growth. Results to date, however, tend to show that this point is too low and the plants sometimes wilt badly before they are irrigated.

Some of the studies that are being made in connection with this project are:—the best depth of water to apply for the most economical production of hay, the duty of water, com-

### AVERAGES ON ALL PLOTS.

| Method of Planting | Inches at each Irrigation | Total water applied during 1915, inches | Rainfall during growing season, inches | Yield per acre, pounds |
|---|---|---|---|---|
| Drilled | 2 | 29.6 | 5.80 | 11569 |
| Drilled | 3 | 39.5 | 5.80 | 12902 |
| Drilled | 4 | 42.6 | 5.80 | 13964 |
| Drilled | 5 | 49.2 | 5.80 | 14077 |
| Rows | 3 | 36.5 | 5.80 | 11387 |
| Rows | 4 | 43.2 | 5.80 | 12704 |

parison of yields of row and drilled plots, evaporation and transpiration studies under field conditions, depth of penetration of roots under different amounts of water, and depth of penetration of irrigation water when different depths are applied.

Many valuable data already have been secured in connection with this experiment, and published in bulletins numbers 86 and 93 of this Station. Some of the results secured during the season of 1915, showing the possibilities of alfalfa on our mesa soils, are given in the foregoing table.

The cost of maintaining so large a number of small plots is so much greater than the ordinary expenses of growing alfalfa that no cost data are available. However, the data given in the above table show the possibilities, provided water can be applied at an economical price.

J. T. BARLOW,
Assistant Agronomist.

# The Home Department

**Edited by GAIL RICHIE, State Demonstrator in Home Economics.**

## REMOVING STAINS
### (From Wash Goods)

Axle grease:

Rub on lard and let stand before washing.

Blood:

1. Two teaspoonfuls of glycerine in a quart of cold water will greatly facilitate the work of removing blood stains. Soak in cold water until the stain turns brown, then use warm water and soap. Naptha soap is best. Or,

2. Rub with common soap, then soak in water to which a teaspoon of turpentine has been added.

3. Stubborn stains may be treated with peroxide of hydrogen or Javelle water.

4. If the goods is thick, apply a paste of raw starch to the stain. Renew paste from time to time until stain disappears.

Brass:

Rub lard or olive oil on stain, then wash with warm water and soap.

Chocolate:

Sprinkle with borax and soak in cold water.

Coffee:

Spread stained surface of the cloth over a bowl or tub, and fasten with clothespins so as not to scald the hand. Pour boiling water through it from a height, so as to strike the stain with force. To prevent the place from having a yellowish tinge, sprinkle some powdered borax over the spot after the stain is removed and rinse it out.

Egg stains:

Should be soaked in cold water before washing.

Fruit and wine stains:

1. Treat with boiling water, as for coffee. It may be treated first with alcohol, which softens most fruit stains. The removal of the stains is assisted greatly by placing the goods outdoors on the green grass or thawing snow to bleach.

2. If the stain resists the boiling water treatment, soak the stained part of the cloth for a few minutes in a solution made of equal parts of Javelle water and boiling water. Rinse thoroughly with boiling water to which a little dilute ammonia water has been added. Repeat if necessary. (See under "Peach stains).

Glue:

Wash in vinegar.

Grass stains:

1. Soak in alcohol.
2. Wash with Naptha soap and warm water.
3. If the fabric has no delicate colors and the stain is fresh, treat with ammonia.
4. For colored fabrics, apply molasses or a paste of soap and cooking soda, and let stand over night.

(To be continued in the August issue).

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### CURTAINS AND DRAPERIES

Curtains and draperies which were designed for shutting out light, heat or cold, are often used for no other purpose than to fill space. Mantels covered with lambrequins become dust catchers and are also very inartistic. Our dislike of the imitation should influence us just as much in our choice of furnishings as in our choice of friends—the sham should have no place in our homes.

Sham lace curtains are undesirable. The madras, scrims, voiles and Marquisettes cost little more than the imitation lace and are easily washed. Draperies, too, may be of washable materials. Those which carry out the color scheme of the room are most pleasing. Figured materials against a plain wall give pleasing effects, while plain materials are more pleasing against a figured wall. Cretonnes, chintzes, tapestries, monk's cloth and burlap are all good materials for draperies. Curtains and draperies should conform to the structural lines of the windows or doors at which they are hung.

HELEN SCOTT, Ohio.

## Boys' and Girls' Club Work

W. T. CONWAY, State Club Leader.

### TWO HUNDRED CLUB WORKERS DOING THINGS WORTH WHILE.

The boys and girls of Bernalillo county are making history. Professor J. F. Bentley, City Industrial Club Leader, reports two hundred or more boys and girls will complete their club projects this year. The Industrial Club work outside of Albuquerque is gaining ground every day. At the present time there are some thirty clubs within this county, about equally divided between garden clubs, chicken clubs, cooking and sewing clubs, with a few boys and girls who are interested in pigs, corn and other crops.

Within the city of Albuquerque the girls seem more interested in the Industrial Club Work than the boys, partly because of the fact that cooking and sewing can be taken up at any time during the year, while those projects in which boys are most generally interested should be started in the fall or early spring.

Many of the gardens are showing up exceptionally well and the children on their small plots of ground are supplying the family with vegetables as well as having a surplus for sale.

Professor Bentley tells a number of interesting stories about the work. A little fellow about ten years old, living on East Iron Avenue, has a fine looking garden, Irish potatoes a foot high or more, with plenty of radishes, lettuce, beets, beans, mustard. This little boy, even if he should not become a farmer, is learning something. He can tell you just how much time he has spent on the garden, how much his seed cost him, and other details; so that when the year is over he will know whether his garden was an expense or a profit.

The boys and girls in these projects

are not only being taught to do things, but they are learning to think for themselves, and to solve the everyday problems. They are overcoming obstacles which are confronting not only them, but the grownups. For illustration, a little boy living in the heart of the city found that the English sparrows were destroying his garden, as they were doing for others. He tried different remedies and then worked out the following device, which is very effective. Instead of planting his seeds in a bed, he planted them in rows; at the end of each row he drove a stake, and strung a wire or a stout string from stake to stake. On these wires, at short intervals, he tied strips of rags which hung down almost touching the vegetables. These strips of cloth are generally in motion. He says that now when the sparrows light down in flocks to devour his garden they take a look at these strings flying in the air, and away they go to eat up the fellow's garden who failed to use his brain as profitably as did this boy.

Another interesting story is told of a boy who tried for some time to get a good stand of vegetables. The atmosphere was dry and the sun very hot, and before his seed could germinate the ground was either dried out or the sun was so hot that the seed would not germinate. To remedy this, he concluded that it might be well to wet burlap sacks, laying them in this condition over the seed. To his delight he found that this kept the ground nice and moist, and within a few days he had a perfect stand of all seeds planted.

The club work seems to be developing a desire for pure-bred stock and poultry, for one little boy who is in the club work, bought a pair of thoroughbred pigeons at a cost of six dollars. In a short while he will be offering pure-bred stock for sale. He also has some of the finest Belgian hares in town.

The club work is also developing partnership among the children or fostering co-operation, so much talked of in the business world. In the fourth ward there is a little boy and his sister who have one of the finest gardens in the city; they work it together, play in it together, and, when the time comes for the final exhibit and report, they will exhibit and report together.

The club work not only pays well from a monetary consideration, but it teaches the children to use their brains—mixes work and play, and, in the end, substantial men and women are developed. H. C. STEWART,

County Agricultural Agent.

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## CLUB WORK ON THE PLAINS

Outside of the Counties with paid agents in agricultural extension work, Curry County leads the list in point of Club enrollment and ranks among the best in actual Club work. The first Club member to become a leader in Club work lives in the Pleasant Hill neighborhood of Curry County. As a Club member he becomes of age this year.

Not long since the State Leader visited the Clubs on the Plains and found them working nicely. Both Locust Grove and Pleasant Hill groups are in the race for Mr. Boyce's $4,000.00 Club house. The way they are working in these two communities shows that they mean business.

With their Club work they weave in the social features that make their gatherings a source of pleasure and enjoyment. The girls' Cooking Clubs showed us, in a practical way, their skill in cake-baking. To this they added ice-cream and plenty of good cheer, which gave a splendid relish to the refreshments.

Not only is the Club membership interested and active but the whole community turns out to these follow-up meetings and puts its stamp of approval on the work by their presence. One man stated that whenever he had an opportunity to burn some gasoline in the interest of the Club work he was always ready. We learned that he had risen at five o'clock on Monday morning and had driven fifteen miles to town to get ice for the nine o'clock meeting. While he was gone to town, his little daughter baked a cake for the occasion, tho she is about five years under the club age. The Club spirit runs in the family. There were seventy-five people at this Monday morning Club meeting right in the midst of harvest time.

On Saturday before the Monday meeting, Locust Grove turned out more than fifty strong in spite of a counter attraction in the adjoining neighborhood. This is one of the fortunate communities where the Principal of the school is a resident member and a good Club leader. The boys are taking the double project of Crops and Pigs and the girls are busy with Cooking and Sewing.

It does one good to feel the spirit of cooperation that is frequently found in country communities like these.

In Roosevelt County, thirty-five miles from the railroad, is a Garden and Canning Club, with the odds of the elements against them because the rainfall is lighter than usual, yet they desired a canning demonstration, which the State Agent in Club Work gladly gave. The boys in the Pig and Crops Club were all there except one and he wanted to be there.

This is another instance of live Local Leaders. The teacher in this district—which, by the way, is named Benson—lives in the adjoining community ten miles away. But he keeps this neighborhood alive by the Club Work and the old-fashioned "Literary and Spelling Bee." His wife is the leader of the girls' Clubs. While these Clubs are not numerically large, they are doing effective work and taking an active interest in it.

Occasionally one finds a Club whose members are doing fairly good work with but little help from their leader. But this is the exception and not the rule. The State Agent met two such Clubs on his recent trip. All the boys of the Corn Club were present at the meeting and more than half the girls of the Sewing Club, but the leader of neither was present. Doubtless there was some good reason for their absence, yet how much better the meetings would have been if the Leaders had made the effort to be there. It is the vital, personal touch that electrifies, stimulates and energizes Club workers to do their best.

## GOOD PIG CLUB WORK

County Agent M. R. Gonzalez of San Miguel County is doing some good Pig Club work through the cooperation of the banks of Las Vegas. One of these bankers, Mr. Harris, purchased twenty-four pure-bred Durocs, twenty of which are sows. He put these pigs in the County Agent's hands to be distributed to Pig Club boys in four different communities. With each group of five sows one boar is placed with one of the boys.

In addition to complying with the rules of the State Pig Club Project, each boy that receives a pig agrees to plant an acre of grain or peas, raise the pig and return one pig from the first litter raised to the bank furnishing the pigs. It is the intention of the bank to collect these pigs and furnish them to other groups of boys on the same terms. This forms an endless chain for introducing pure-bred hogs in that County and will encourage pork production.

Each boy that gets a sow pig will give the boy who keeps the male one pig from each litter. Thus all get their share of the increase.

In addition to placing these twenty-four Durocs, Mr. Gonzalez has already placed twenty-four Poland Chinas. In a few years our Pig Club boys of that County will be able to get pure-bred stock right at home.

The State Agent in Club Work certainly appreciates the cooperation of the business men like Mr. Harris.

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## PAID LEADERS

Club Work in cities and towns, also in thickly settled country districts, can be very efficiently done through paid leaders. The local communities bear the expenses of this leadership and hold the leaders responsible for the work done. The office of Club Work furnishes the necessary literature and gives a due portion of personal help both in organization and follow-up work.

During the month of June, the State Agent in Club Work visited three towns that have employed paid leaders. These are Springer, Raton and Albuquerque. In every instance the leaders were found taking an active interest in the Club work and the members have something to show for their efforts. At Springer, the Agent found three excellent calves—two of them pure-bred Herefords—and three boys very much interested in raising good live stock. He also found some good pigs and chickens that were receiving the proper care and attention from the owners. In addition to the live stock projects, a number of girls are studying and practicing the art of cookery. Mr. Robert Foster is the leader in Club Work in and around Springer. He also has charge of the public playground and directs the outdoor exercises of the children.

Raton was fortunate in securing Miss Wilma D. Evans—teacher of Domestic Science in the High School—for a leader of the Club Work during the summer. After an excellent Club meeting June 12th, Miss Evans scored the bread and cake of one of the Cooking Clubs, demonstrating clearly the strong and weak points in the methods of the bakers exhibiting. The demonstration was practical and forceful, far better than even a scientific lecture on the art and science of breadmaking. Meetings were appointed for the several Cooking Clubs to bring material for a loaf of bread each, at which times the girls will actually do the work from beginning to end. Who will say that this test is not good training for those girls? It will help them as long as they live.

Miss Evans has also had some experience and practice in garden work. She is directing this and likewise the Poultry Club work.

The readers of the Albuquerque Morning Journal will remember seeing an interesting article recently on the "Two Hundred Club Workers," of that city. The article is republished in this issue of the "Courier," for the benefit of all of our readers. Mr. J. F. Bentley—one of the teachers of the public schools, with agricultural training—is leading the Club work in Albuquerque.

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# THE NEW MEXICO FARM COURIER

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"Modern science has long demonstrated that its value is by no means confined to pushing back the boundaries of the unknown. The world today as never before realizes that successful practice rests upon a foundation of scientifically ascertained truth. The most practical man is the one who recognizes that the varying conditions which occur in Nature are so numerous that it is often beyond the limits of practical experience for him to work out for himself the many principles necessary for successful improvement of methods."

Published Monthly by The
EXTENSION DIVISION, NEW MEXICO COLLEGE OF AGRICULTURE AND MECHANIC ARTS
State College, N. M.

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THE NEW MEXICO FARM COURIER

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The following circular, recently issued by the New Mexico Cattle and Horse Growers' Association, with headquarters at Albuquerque, gives some very interesting facts regarding the progress of the cattle industry during the past few years, as well as setting forth a number of things that the Association stands for. The Association will no doubt be of much service to the livestock interests of the State:—

### "DO YOU KNOW?

During the past five years the gain in the total number of cattle in the United States has been 6 per cent,

**New Mexico's Gain, 21 Per Cent!**

In the same period the rise in value per head in the entire country has been 21 per cent,

**New Mexico's Gain, 71 Per Cent, from $23 a Head in 1912 to $40 in 1916!**

In five years the increase in the total value of all the cattle in the United States has been 61 per cent,

**New Mexico's Gain, 100 Per Cent!**

Cattle in New Mexico and Their Value:

| Year | Number | Value Per Head | Total Value |
|---|---|---|---|
| 1912 | 900,000 | $23.40 | $21,060,000 |
| 1913 | 891,000 | 29.00 | 25,839,000 |
| 1914 | 918,000 | 32.70 | 30,019,000 |
| 1915 | 991,000 | 35.50 | 35,180,000 |
| 1916 | 1,090,000 | 40.10 | 43,709,000 |

### WE BELIEVE

In the organization of people with similar interests, that they may obtain as a body what would be impossible as individuals.

**We Believe** that the Cattle and Horse Growers need centralization and organization to secure the enactment of laws which will protect and foster their interests.

**We Believe** that through co-operation we better can meet our common enemies—those animals, human and wild, who have no respect for the property of others.

**We Believe** in a fair Chance for, and an understanding with, the rancher, dry farmer, the sheep raiser, and all others who gain their living from the soil. Knowledge, not Ignorance.

**We Believe** in co-operation with the Cattle Sanitary Board, Bureau of Animal Industry, Forest Service, Indian Service ,General Land Office, and all other regulatory bodies, to the end that we may know and understand their aims and they appreciate our problems. That we understand each other.

**We Believe** that today's conditions and problems must be met with methods of today. Development and Progress! **We Believe** that stockmen should appreciate the economic questions behind the correct principles of breeding and growing of cattle and horses, and that through applying these principles they can add to their wealth and income. **We Believe** in New Mexico, her Resources, her Future, which is Ours, and, not boastingly,

**We Believe in Ourselves.**

**We Believe that No Cattleman Can Afford to Stay Out of Our Association."**

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## FEED SORGHUMS FOR LATE PLANTING

The following quotation is taken from a letter received from a resident of eastern New Mexico who has had much experience in the growing of dry-farm crops:—

"The saccharine or feed sorghums are divided into several groups, but there are only two groups of economic importance in this section. These are the Orange canes and the Amber canes. While it is much too late to plant crops of any nature with the expectation of their maturing, nevertheless it is not too late to plant some crops which may be cut immature and used for feeding purposes. Of these crops, adapted for late feed, perhaps there are none better adapted to our section than varieties of the feed sorghums. Of these, one of the amber canes should in most cases be used if planted this late in the season, as they are among the earliest maturing varieties. Of these White Amber, or, more properly "Freed sorghum," is probably the earliest and surest variety, although a small yielder. Other good varieties are the Red Amber, Black Amber, Dakota Amber, and Minnesota Amber sorghums.

"If the ground is in good shape it may sometimes pay to broadcast or drill in the seed for late planting at the rate of about 15 pounds of seed to the acre, but it will usually be found better to plant in rows, as they are much surer of making a crop if planted this way.

"Varieties of sorghums, such as the Freed, the Black Amber, and the Red Amber, have been planted in this section as late as the 15th of August and still made good feed crops, though of course they did not reach maturity.

"One of the reasons why this section should be devoted almost entirely to stock and stock farming is that it is almost always possible to raise some feed crops, even in the driest years."

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## A SCRUB SIRE NEVER PAYS

Quality becomes more essential to profit in live stock farming each season. When labor, land, and feed were cheap it was possible to realize a profit on live stock of an inferior grade, but with the present high cost of these production factors and a constant discrimination on the market against the "scrub," it has become evident that the greatest profit can be expected only from live stock of good quality. It may be possible for the feeder or dealer to make a profit on inferior live stock if he is able to buy it sufficiently cheap and sell quickly, but usually some one has not realized the greatest possible profit when a "scrub" goes to market. If it is not the feeder, it is the man who produced the animal.

At the Missouri Agricultural Experiment Station lambs sired by a $30 mutton ram and out of Western ewes weighed 2.54 pounds more at three months of age than lambs out of the same kind of ewes by a "scrub" ram weighed at four months. The well-bred lambs were ready for market a month earlier, they ate only one-half as much feed, and they sold for nearly $3 more per hundred than did the lambs by the inferior ram.

Just recently two Utah ranchmen are reported to have sold their cattle on the same market on the same day. Both used the same amount of national forest range per head and paid the same grazing fee. One had used good bulls to produce his cattle, the other had not. The good cattle brought $40 per head more than the poor cattle.

Whether the live stock is cattle, hogs, sheep, or horses, the good ones are appreciated when sold and consequently bring higher prices and normally yield greater return. The most practical means of improvement is through the use of good sires, for the male may become the parent of from 40 to 100 animals each year.

E. A. TROWBRIDGE,
Missouri Agricultural Experiment Station.

# Department of Animal Husbandry

## FEEDING VALUE OF MESQUITE BEANS.

On account of the usually large crop of mesquite beans, wherever the mesquite shrub flourishes, and the fact that they grow wild over large areas of the otherwise barren mesas of the Southwest, and also because of the high prices of all kinds of grain in recent years, much attention is being given to the possibility of their greater utilization as a stock food. While it is generally known that horses and cattle eat the pods eagerly because of the sugar they contain, but little is known of their composition and digestibility.

It has been estimated that the entire pod including the seed contains the following quantities of digestible nutrients in 100 pounds: 8.34 lbs. crude protein; 54.02 lbs. of carbohydrates; and 2.4 lbs. of fats. This shows their feeding value to compare very favorably with that of barley, which has the following rate of digestibility in 100 pounds: 8.4 lbs. crude protein; 65.3 lbs. of carbohydrates; and 1.6 lbs. of fats. In all the nutrients excepting the protein, they are very much higher than alfalfa hay, which contains 10.5 lbs. of digestible crude protein; 40.5 lbs. of carbohydrates; and .9 lb. of fats in 100 pounds. After making the proper allowance for the higher nutritive value of the fats, the three feeds stand as follows in their relative rates of digestibility: Mesquite beans 67.78; barley 77.7; and alfalfa hay 53.2 per cent.

In order to secure the full nutritive value of the beans they must be ground, for the hard seeds comprise 25 per cent of the total weight of the fruit and contain a large amount of nutritive material, which would otherwise be mostly lost, since if fed without grinding, quite a large per cent of them go through the animal unchanged or only partially utilized. In the Station Experiment it was found difficult to grind them after the pods became thoroughly dried. The large quantity of sugar they contained made them so sticky that they clogged the mill. This difficulty can doubtless be overcome by grinding soon after harvesting, or mixing them with grain before grinding.

The pods are agreeably sweet, so much so that horses and cattle eat them eagerly. Their sugar content varies considerably in per cent and kind, but it averages a little more than

20 per cent. A large proportion of the available nutrients are readily soluble in water and hence easily digested. On this account when harvested they should be stored where they will not get wet, for they will then ferment and sour and become worthless as feed. The pods are quite bulky, weighing only 21 lbs. per bushel( requiring three times the storage space of an equal weight of wheat). They should not be given as the entire ration on account of their constipating effect, but this is readily overcome if fed in connection with alfalfa hay, wheat bran, or some succulent food.

In a recent preliminary feeding experiment with pigs, conducted at this Station, the beans were not as highly relished by the pigs as they seem to be by the horses and cattle, though the pigs ate them well when they were ground and mixed with ground milo in the proportion by weight, of 1 part milo to 2 parts beans. At the beginning of the experiment the pods were soaked and mixed with the grain but they were not relished by the pigs, next they were ground and mixed with the grain, when the pigs ate them readily with much better results. The mill then failed to act and the bean pods were pounded up into a coarse meal and fed as before.

The results of this short preliminary experiment show the mesquite bean to be a very much concentrated form of food, approaching the grains very closely in nutritive value, and indicate that when grains are worth $1.50 per hundred, mesquite beans properly ground and fed to pigs in the manner mentioned above, are worth about 80 cents per hundred.

It is expected that future experiments will show more definitely just what use may be made of mesquite beans in feeding farm animals and the best methods of handling and using them. LUTHER FOSTER.

# Department of Horticulture

## THE NEED OF VEGETABLE GARDENS.

During the last few months quite a large area of the State has been visited and one of the most striking features of the region covered was the absence of the vegetable garden. Looking at the matter in one way the vegetable garden is not very conspicuous, for it usually occupies a comparatively small area of ground and is usually in a place not easily seen. Furthermore it is possible to buy vegetables put up in tin cans. On account of being able to buy the canned vegetables, many accept the illusion that it is as cheap and, all things being considered, as well, to buy the food in this form. But there is another side to be considered, and that is the supply. Will there be as many vegetables consumed if one depends on buying them? If the family consumes fewer vegetables, will it be as efficient? If a strict record was kept, would it be found as cheap to buy the canned vegetables as it would to raise them?

Of course there are places in the State where the conditions are such that it would be nearly impossible to raise vegetables. There is too much alkali, gyp, or the ground is in need of drainage. On the other hand, there are many localities where such places are thought to exist, when by proper treatment the difficulty could be overcome. Practically all vegetables require plenty of nitrogen, and as a rule there is very little nitrogen in an alkali or gyp soil. Where the alkaline condition is not too bad the soil can be greatly benefited by growing sweet clover on it for a few years. This will supply a quantity of nitrogen and at the same time loosen up the soil so that it is more suitable for vegetables.

Many have trouble on account of not being able to get the seed to come up. Most of this trouble can be overcome by planting more seed than would be necessary in other States where the rain is depended upon instead of irrigation, for growing the crop.

Since vegetables are planted in the winter, early spring and early summer, it might be thought that this article is not very timely, but on the other hand it comes at a time when the daily rations may be studied and found lacking in vegetables. Furthermore, it is by no means too soon to begin making preparations for next year. In fact, it will take more than one year to get the soil in such condition that it will give the best returns.

Make it a point to grow more vegetables than the family will need during the summer and then can all that are not used, so that there will be a supply for the winter. The College can tell you how to can vegetables so that they will be as good as any that you can get at the store, and they will also be more wholesome.

Eat more vegetables and live more cheaply, be healthier and able to do more and better work.

J. W. RIGNEY.

## CHLOROSIS IN PLANTS.

Chlorosis is a term used in plant physiology to designate an abnormal condition in a green plant in which the natural green color is changed to a sickly yellow, or even to a nearly white color. The leaves and tender shoots are the parts evidently affected. This condition may be temporary, affecting only parts of the plant; it may be permanent, involving the whole plant, but not causing the death of the plant; it may be sufficiently severe as finally to cause the lingering death of the plants, the leaves turning brown in the later stages. As a rule, the sickly yellow may be distinguished from the tender yellow-green that denotes rapid normal growth in shoots. In the latter case the leaves darken up rapidly when the growth becomes slower.

In New Mexico chlorosis is widespread, but occurs possibly to a greater degree in the irrigated sections. Observations indicate that it is found more often among plants not native or on native plants that are out of their natural habitat. The list of plants affected is large and includes members of widely separated families. Annuals or perennials may be affected. There is no definite time when the condition may be worse than at other times. Occasionally it may be aggravated by irrigation or by rains. The effect of the water is, apparently, on the total of influencing conditions, and not due to the water itself. Older plants, as trees, may be affected as well as younger ones, but the percentage of chlorotic young trees is higher.

The exact cause of chrolosis is not known. Nor is there known, as yet, certain cure for all cases. However, in many parts of the country investigators are deeply at work on this very important problem and definite results should be forthcoming before long. These investigators are agreed that chlorosis is NOT due to fungus, and that it IS due to some disturbance of the mineral nutrition of the plant. They are working to determine what is the exact nature of this disturbance. It is very evident that the problem is enormous when one considers all the factors of soil composition, moisture and climate that may affect this mineral nutrition of the plant.

Some investigators claim there is a lack of iron in the affected plant and much work is being done to determine the cause for the deficiency and a remedy. Some hold that the presence of too much or too little available nitrate nitrogen in the soil may cause a chlorotic condition. They seek to learn what factors, bacterial or otherwise, regulate the formation of the nitrates and what governs the utilization of the nitrogen by the plant. Still other investigators are working to find what effect on the thrift of the plant is had by the presence in the soil, in varying proportions, of calcium and magnesium as carbonates, and of iron salts.

In the last case relief has been obtained in some instances by application to the soil in which the plants grew of the carbonate that was deficient, to counteract the effect of the one that was in excess. Results are variable. The application of iron sulphate about the roots of chlorotic plants gave fairly good results but was not feasible from an economic standpoint.

In the second case, where the soil was high in nitrates, the turning under of straw has given relief to affected plants. In average soils the turning under of green cover crops has served to maintain, apparently, the nitrogen balance, and preserve the normal green.

Along lines of investigation in the first case, a tentative remedy has been suggested in the application of ferrous sulphate of iron (green vitriol) to the plants, either as a spray, or by plugging. The latter, of course, is not applicable to small plants.

To plug a tree, bore from 1 to 4 holes 1-4 to 1-2 inch in diameter, depending upon the size of the tree to be treated, and deep enough to pierce the cambium layer and touch the heart wood. Into the holes put as much ferrous sulphate of iron as possible and cover with ordinary grafting wax. These little wounds heal rapidly. The leaves will soon begin to show the effect of the treatment and recover the green color. Sometimes badly affected leaves turn brown soon after the treatment and may fall. This condition is temporary, as a rule. Plugging is applicable to all common fruit trees, having been used successfully at the Experiment Station upon apple and pear trees and upon grape vines and some shade trees. In a large majority of cases recovery is permanent—three seasons of observation show some treated trees still to be normally green.

The spraying of the foliage of plants with a 1 per cent solution of the ferrous sulphate of iron will give beneficial results, though the recovery is not so marked as when trees are plugged. Two applications may be necessary if the first is made early in the season, since the new leaves appearing after the spraying are usually yellow. Chlorosis is apt to show the next season after using this treatment. To give best results the spray must be very fine, so as to wet the surface of the leaf uniformly.

From any one having chlorosis plants, data are requested as to kind affected, extent, locations, conditions of growth, effect of any treatments, and other points that may give information on this plant trouble.

D. E. MERRILL,
Biologist.

## Courses in Gas Engine and Automobile Mechanics at the New Mexico College of A. & M. A.

In addition to the regular college courses at State College, there has been established one and two year practical courses in the repair and operation of gas engines and automobiles.

The purpose of these is to furnish for the young man who is not prepared to take up our regular courses, an opportunity to better himself by learning a good paying trade. It should be of especial benefit to the Spanish-American boy who has had no chance for practical education.

The work has been carried on in a small way for the last two years, and with the experience gained during this experimental stage we are prepared to make this department one of the strongest in the College. The method of teaching is of the greatest importance for successful practical short courses, and we believe that we have found the most efficient solution.

The foundation of a successful automobile mechanic is skill in repair work, coupled with an understanding of the construction and correct operation of the machine. With this in mind we first give the student extended practice in babbitting, filing, lathe work, soldering, forging, vulcanizing and the like. He next studies the construction and operation of the engine and chassis, including starting and lighting systems, magnetos and batteries. When the student is sufficiently familiar with the machine to warrant the advanced work he is put to work at repairing and rebuilding. A feature of our system is the keeping of a careful record of each job the young man does, in order that we may give him ample experience in all phases of the trade and prevent undue repetition of the same kind of work. It should be noted that from the very beginning the student is in contact with actual practice, and that the textbook is used only as it may help him understand the correct working principles of the engine or car.

The Engineering School of State College has the finest equipped laboratories and shops of any school in the Southwest, all of which is available for instruction of these classes. The new machine and wood shop, with a floor area of about 5000 sq. ft., is fully fitted up for all kinds of shop work of a practical nature. An excellent electrical laboratory offers a chance for the study of electrical phenomena, now bearing such an important part in the modern automobile, and examples of all types of gas engines are to be found in the mechanical engineering laboratory. In addition to this, a large room in the south end of the Mechanical Laboratory Building is devoted to the carrying on of repair work. This room has all the elements of a modern garage, including sufficient machine shop equipment to perform nearly any sort of car repair. Vulcanizing is taught here in all its phases, and a car is provided for instruction in driving, which is a regular part of the course.

For 1916, Mr. Paul T. Welles of Cripple Creek, Colo., has been appointed to teach these courses. Mr. Welles is a graduate of the Bradley Institute, and of the Packard Factory course. In addition to this training he has had much practical experience in both garage repairs and teaching.

The demand for well trained gas engine and automobile mechanics is constantly increasing in the Southwest, and offers certain employment to our graduates. Modern farming requires a familiarity with gas engines and machinery, and this course offers an excellent foundation for the mechanic who must operate and keep this machinery in repair. The extensive application of electricity to the modern automobile offers an opening for practical specialists in this line. Young men who wish to make a particular study of the electrical side of the automobile will be given such opportunity.

These courses should be of particular interest to the ranchman or farmer who wishes a better knowledge of the proper care and repair of his gas engines, farm machinery and automobile. For his benefit, a six weeks' short course will be given in connection with the regular Farmers' Short Course, commencing January 8, 1917.

The regular course commences September 1, 1916, for which there are no set entrance conditions, except that an applicant should have completed the eight grade before taking up this work. The Dean reserves the right to require a student to take up such general courses as arithmetic, English, etc., as will make the student better fitted to succeed at his trade.

Any questions concerning these courses will receive prompt attention if addressed to the Dean of Engineering, State College, New Mexico.

A. F. BARNES,
Dean of Engineering.

# The Home Department

Edited by GAIL RICHIE, State Demonstrator in Home Economics.

## CANNING BY THE COLD-PACK PROCESS.

It is thought by many people that in order to succeed by the cold-pack method of canning it is necessary to buy expensive commercial canning outfits. This is not true. A wash boiler, lard can, or other vessel with a tight cover and which can be fitted with a false bottom can be successfully used in the canning of fruits, vegetables, soups and meats. The only advantage of commercial canners over homemade devices, is the saving of labor and time their use makes possible. For example, beans require 150 minutes in water bath outfit (homemade) but only 40 minutes in pressure cooker under 20 lbs. steam.

Directions for using the home made canner:—

### Fruits.

1. Soft fruits, such as strawberries, blackberries, dewberries, sweet cherries, blueberries, peaches, apricots, etc.

Recipe for canning soft fruits.—Can the same day fruit is picked. Grade and rinse the fruit by pouring water over it through a strainer. Cull, seed, and stem. Pack immediately in glass jars. Add boiling hot sirup (thin). Place rubber top in place. Partially tighten. Sterilize in hot water bath outfit 20 minutes. Remove. Tighten covers. Invert to cool and test joints. Wrap glass jars in paper to prevent bleaching and then store.

2. Sour berry fruits, such as currants, gooseberries, cranberries, and sour cherries.

Recipe for canning sour berry fruits.

—Can same day picked. Stem, hull, and clean. Blanch in hot water 1 minute. Remove and dip quickly in cold water. Pack berries closely in container. Add hot sirup of medium thickness until full. Place rubber and cap in place. Seal partially, not tight. Sterilize in hot-water bath outfit 20 minutes. Remove jars. Tighten covers and invert to cool and test joints. Wrap in paper and store.

3. Hard fruits, such as apples, pears, quinces, etc.

Recipe for canning hard fruits.—Grade, blanch 1 1-2 minute, and plunge quickly into cold water. Core, pit, or remove skins, if necessary. Pack whole, quartered, or sliced, as desired. Add boiling-hot sirup (medium thin). Place rubbers and tops in position. Partially tighten. Sterilize 25 minutes in hot-water bath outfit. Remove jars. Tighten covers and invert to cool and test joints. Wrap glass jars in paper to prevent bleaching, and store.

### Vegetables.

1. Vegetable greens, both wild and cultivated.

Recipe for canning vegetable greens.—Prepare and can the day picked. Sort and clean. Blanch in a vessel with a little water under false bottom or in a regular steamer 15 to 20 minutes. Remove. Plunge quickly into cold water. Cut in convenient lengths. Pack tight in jar or container. Add hot water to fill crevices, and a level teaspoonful of salt to each quart. If using glass jars, place rubber and top in position, partially sealed; if using tin cans, cap and tip completely. Sterilize 120 minutes in hot-water bath outfit. Remove from canner. Tighten covers. Invert to cool and test joints. Wrap glass jars in paper to prevent bleaching of vegetables.

2. Root and tuber vegetables, such as carrots, parsnips, beets, turnips, sweet potatoes, etc.

Recipe for canning root and tuber vegetables.—Grade for size, color and degree of ripeness. Wash thoroughly. Use vegetable brush. Scald in boiling hot water sufficiently to loosen skin. Plunge quickly into cold water. scrape or pare to remove skin. Pack whole or cut in sections or cubes, as required by the home or market standard. Add boiling hot water and one level teaspoonful of salt to the quart. Place rubbers and tops in position. Partially seal, but not tight. Sterilize 120 minutes in hot water bath outfit.

3. Special vegetables. Tomatoes and corn.

Recipe for canning tomatoes.—Grade for size, ripeness, and color. Scald in hot water enough to loosen skins. Plunge quickly in cold water. Remove. Core and skin. Pack whole. Fill container with whole tomatoes only. Add one level teaspoonful of salt to each quart. Place rubber and cap in position. Partially seal, but not tight. Sterilize 28 minutes in hot-water bath outfit. Remove jars. Tighten covers. Invert to cool and test joints. Wrap jars in paper and store.

Recipe for canning corn.—Can the same day as picked. Remove husks and silks. Blanch on the cob in boiling hot water 5 to 15 minutes. Plunge quickly into cold water. Cut the corn from the cob with a thin, sharp bladed knife. Pack corn in jar tightly until full. Add one level teaspoonful of salt to each quart and sufficient hot water to fill. Place rubber and top in position; seal partially but not tight. Sterilize 225 minutes in hot-water bath outfit. Remove jars. Tighten covers. Invert to cool and test joints. Wrap with paper and store.

4. Other vegetables, such as Lima beans, string beans, peas, okra, etc

Recipe for canning.—Can same day vegetables are picked. Cull, string, and grade. Blanch in boiling water for 2 to 5 minutes. Remove and plunge quickly into cold water. Pack in container until full. Add boiling hot water to fill crevices. Add one level teaspoonful of salt to each quart. Place rubbers and tops in position. Partially seal, but not tight. Sterilize in hot-water bath outfit one period of 150 minutes. Remove jars. Tighten covers and invert to cool. Wrap jars in paper and store.

The following four rules will help in the operation of the hot water bath outfit.

1.—Support the jars on a perforated platform which will permit the circulation of water under, among and around the jars.

2.—Have the water cover the tops of the jars by at least one inch.

3.—Count the time as soon as the water begins to boil up in great waves over the entire surface.

4.—Remove jars from water and tighten the covers as soon as the time is up. (To prevent worry and possible error, set alarm clock to ring at time to remove jars).

Shrinkage of product during sterilizing may be due to improper blanching and cold dipping, to careless packing, sterilizing for too long a period or lack of judgment in sizing the product to the container. The following things will cause loss of liquid from jar during the sterilization period:

1.—The water in the canner did not cover the tops of the jars.

2.—The platform in the bottom of the canner did not permit the water to circulate underneath.

3.—The covers of the jars were adjusted too loosely.

Rubbers: Use new jar rubbers each year. Old rubbers that have lost their elasticity may cause the jar to be imperfectly sealed and thus affect the keeping quality of the product. Use only thick soft elastic rubbers. A good rubber will stand several hours of boiling in a hot-water bath outfit without being affected.

Further information concerning canning by the cold pack process may be secured from the Extension Division, New Mexico Agricultural College, State College, N. M., or States Relations Service, Office of Extension Work, North and West, Washington, D. C.

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## REMOVING STAINS

(From Wash Goods).

(Continued from the July issue).

Grease Spots:

1. Wash thoroughly with Naptha soap and water.

2. Soften old grease spots with turpentine, oil, or lard before washing the cloth.

3. Dissolve the grease in benzine, alcohol, chloroform, ether, carbona, or benzol.

4. For delicate fabrics, dissolve grease spots in ether or chloroform. Chloroform and carbona are useful because non-inflammable.

5. Apply a paste of Fuller's earth or chalk to absorb the grease.

Indigo:

Treat as for coffee.

Ink:

Ink is often difficult to remove, as it varies greatly in composition. It is well to experiment with a corner of the spot before operating on the whole.

1. Rub with yolk of egg before washing.

2. If the stain is fresh, soak the stained portion of the cloth in milk. Use fresh milk as the old becomes discolored.

3. Wet the stain with cold water. Apply a ten per cent solution of oxalic acid to stain, let stand a few minutes and rinse. Repeat until stain disappears, then rinse in water to which borax or ammonia has been added. (Oxalic acid is a very poisonous substance.) Oxalic acid destroys the color of some goods.

4. Equal parts of alum and cream of tartar will not injure the color. Mix, moisten with water and spread it on the spots. Repeat until they disappear.

5. Use a ripe tomato (Oxalic acid in tomato) for ink in table linen. Squeeze the juice from the tomato on the spot of ink and work the juice into the spot. Rinse, then apply the juice again and continue until the stain disappears.

6. Javelle water will remove some ink stains. Soak the stain in Javelle water for a few minutes, then wash. Repeat until stain disappears.

7. Treat with hydrochloric acid as for iron rust.

8. Treat with lemon juice and salt, as for iron rust.

9. Use alcohol as for some rust stains.

10. Saturate the spot with milk and then with turpentine, letting it stand several hours and then rub it well. This does not injure the color.

Red Ink:

Wash with ammonia and cold water or Javelle water.

Purple Ink:

Rub with equal parts of alcohol and glycerine.

Indelible Ink:

Soak in soft water, and wash with ammonia, or use cyanide of potash (Poison), one part, in twenty-five of water.

(Javelle water, oxalic acid, hydrochloric acid, lemon juice, remove color).

Iodine Stains:

Soak in alcohol, chloroform or ether.

Iron Rust:

1. Wet the stained part with borax and water, or ammonia, and spread over a bowl of boiling water. Apply a 10 per cent solution of hydrochloric acid, drop by drop, until the stain begins to brighten. Dip at once into alkaline water. If the stain does not disappear, add more acid and rinse again. After the stain is removed, rinse at once thoroughly in water to which borax or ammonia has been added. This is to neutralize any acid that may linger. Less dilute acid may be used if the operator is skillful.

2. Proceed as with hydrochloric acid, but use a 10 per cent solution of oaxalic acid instead of hydrochloric acid. Oxalic acid is not so detrimental to fabrics as hydrochloric acid, but it is a deadly poison.

3. Wet the stained part with a paste made of lemon juice, salt, starch, and soap, and expose it to the sunlight. This is a simple method to employ, but it takes longer and is often not effective.

4. Soak the stain in Javelle water for a few minutes, then wash. Repeat until stain disappears. Javelle water is weaker in action than is hydrochloric acid.

5. Place a lump of cream of tartar on the spot of iron rust, and tie up the article so as to hold the cream of tartar on the spot. After boiling, the clothes will be perfectly white and free from spots. All these rust removing substances destroy color, and unless care is taken, will weaken the fabric.

6. Cut a tomato in two and rub on the spot, then put in the hot sun.

Lampblack:

Saturate spot with kerosene. Wash

with Naptha soap and water.

Machine oil:

1. Wash with Ivory soap and cold water.

2. If the stain does not respond to the soap and water treatment, use turpentine, wetting the spot with it and letting stand a few minutes. Wet again and sponge or pat with a clean cloth. Continue until stain disappears.

Meat Juice:

Wash in cold water, then with soap and water.

Medicine Stains:

Soak in alcohol.

Mildew:

This is very difficult to remove, especially if of long standing.

1. Soak in strong lemon juice or buttermilk and let lie in the sun; you may have to repeat this several times.

2. Wet stains with paste made of one tablespoon of starch, juice of one lemon, soft soap, and salt, and expose to action of sun.

3. Treat with paste made of powdered chalk and expose to action of sun.

4. If nothing else is successful, use chloride of lime. Take a heaping teaspoonful in a quart of cold water; stir with a stick until dissolved, then strain two or three times. Immerse mildewed articles until the spots begin to disappear, being careful not to get the hands in the solution. Spread the goods in the sun. If spots are still visible when dry, repeat process. This destroys color, so will not do for colored goods.

Milk:

Should be washed in cold water first, then with soap and water.

Mucus:

Soak in ammonia water or in salt and water, then wash with soap and cold water. Best to boil afterwards.

Paint:

1. Wet the spot wth turpentine, benzine, or alcohol; let stand a few minutes. Wet again and sponge or pat with a clean cloth. Continue until stain disappears.

2. For delicate colors treat with chloroform.

3. If the paint is old it may take some time to soften. Treat old paint stains with equal parts of ammonia and turpentine.

Peach Stains:

Rub glycerine over the stain two or three days before washing.

Perspiration:

1. Wash and soak in strong soapsuds and let lie in the sunshine for several days.

2. Treat with Javelle water as for iron rust, or with oxalic acid as for iron rust.

Scorch:

Scorched fabrics can be restored unless the threads are injured.

1. A slight scorch may be removed by hanging in the sun.

2. Wet the scorched portion and expose to the action of the sun, or dip in a hot solution of borax and hang in the sun.

3. For bad scorch stains, extract the juice of two onions, by pounding, add one cup of vinegar, two ounces Fuller's earth, and half an ounce soap. Boil. Spread paste over scorched surface and let dry in sun. Wash out thoroughly.

Shoe Polish:

Soak the spots in sweet milk before wetting in water.

Stove Polish:

1. If fresh, remove by washing.

2. If the stain is old, saturate with kerosene and wash with Naptha soap and water.

Tar:

Saturate with kerosene and wash with Naptha soap and water.

Tea:

1. Sprinkle with borax and soak in cold water.

2. Soak the stain in glycerine, then wash.

Varnish:

Treat as for paint, by moistening with turpentine and after a moment rubbing with a clean cloth and more turpentine.

Vaseline:

Soap and water is often all that is necessary, but stain cannot be removed after boiling. If obstinate, wash with turpentine or kerosene.

Wagon Grease:

Soften with lard or oil and wash in soap and water.

Sulphur fumes are good to remove obstinate stains from any kind of white goods. Put a tablespoonful of sulphur on a plate, moisten it with pure alcohol and ignite. Cover with a tin funnel; wet the stained portion of the goods and hold over the small hole in the funnel. Allow the fumes to reach every part of the stain, then rinse in clear water to which has been added a little ammonia, after which it may be laundered as usual.

Tablecloths, napkins, etc., sometimes become yellow from lying unused. Put them to soak in a pan of buttermilk for a day or two, changing once or twice; afterwards rinse and blue. Or rub lard on the stained parts and spread in the sun, being careful to bring the linen in at night so no dew or rain will fall on it. Leave it for a week, then wash in the usual way. This process will not injure the finest linen.

MILDRED FULGHUM.

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# Boys' and Girls' Club Work

W. T. CONWAY, State Club Leader.

## GETTING CLUB EXHIBITS READY FOR THE FAIR.

It is well to have the exhibit in mind all the time while the project is being worked out. Have an ideal and work toward it as fast as you can.

We have sent out lessons telling how to select and prepare the exhibits in each of the six projects, except sewing. This lesson will follow soon. These lessons give just a short outline of what should be done, leaving the Club member to think for himself or herself in filling in all the little details. We want our members to exercise their own judgment and to show their skill in preparing their exhibits. It is needless to say that we want every member to show the best he has, and not to be ashamed of it. The best this year may not be as good as you have seen nor as good as you can produce under more favorable conditions, yet we want the Clubs to exhibit what they have. It is by getting these exhibits together and comparing the strong and weak points that we learn how to improve them.

In making an exhibit, always have in mind what the market demands and try to show a product that will top the market. Quality and uniformity mean more to the judges than the freak or prodigious. Show the useful rather than the marvelous.

But Club members must show something in order to complete their projects. We admire the pluck of those members who know they have not the best that will be shown, yet show what they have produced, in order to demonstrate that they are not "quitters." Then exhibit what you have, the best you have, even if it is all you have.

## THE FINAL REPORT.

Have you kept a record of your project? If you have, the final report will be easy. If you have not kept a record, the final report will not show anything very definite. Each Club member received a Club circular on the particular project he or she enrolled for. The circular has an outline of the main items that should be recorded in the notes. If this outline has been followed closely, the cost of production can be easily found and the net profit calculated.

A copy of the final report must be certified by the Local Leader, or some one acting for the leader, and this must be turned in before the exhibit is made. It will be well to make three copies of the report and story,—one for the Local Leader, one for the County Leader or Agent, and one for the State Leader. If these reports are prepared and turned in before the exhibits are made, the former can be graded ready to receive the added score of the exhibits, and each contestant may know immediately what his or her standing is. All the data for the final grade will be found in the report, except the score of the exhibit.

In the Field Crops projects, as corn, kafir and milo, it may not be possible to give the "yield" before the exhibit is made. But the report must be sent in and the item of "yield" can be placed on the report after the crop has been gathered and measured or weighed. In the cases of all crops that are gathered before the exhibit is made, the "yield" can be given in the report

**Every Club member must make a final report.** This is a part of the project.

## THE CLUB STORY.

A well written story on how the work was done, means much toward the final achievement of the Club member. The story should give the facts and be told in a frank, straightforward way.

Begin writing this story now. Complete it as nearly as you can, lay it aside for a few days, then take it up and re-write it. By this means you will have a good story.

Remember the story can be illustrated with photographs and drawings which will add much to the attractiveness. It is well for each local Club to meet and consider cover designs and form of their stories. Adopt a Club color and work out some neat design for the front page.

The Club story is a part of, and inseparable from, the final report. Write plainly and as neatly as you can. Spell your words correctly and use good English to express your meaning.

## A WORD TO LEADERS

The Club members will need the help and advice of their Leaders more at the close of the work than at the beginning. Please do not leave the Clubs to themselves and permit them to become discouraged and have their energies dissipated right at the last. There is not a single member who has done the work, followed the instructions and kept a record that is unable to make an exhibit and give a final report. But, because they have never seen such an exhibit nor made a report on their work, many of the members will get afraid and fail to complete their projects. Leaders should plan for, urge and encourage the members to write their stories, make their reports and show their products.

Every local Club should have a local exhibit. The time and place should be announced some time beforehand and the parents and friends should be urged to turn out and see the exhibit. Let the Club render a short program appropriate to the occasion. Have the exhibits judged and offer a few small prizes according to the Basis of Award on their particular project. Have a Club festival, a picnic—anything to give the members a chance to complete their work.

## THE CLUB CAMP AND STATE EXHIBIT.

The second annual State Club Encampment will be held during the State Fair, Albuquerque, September 25-30. Capt. J. H. Toulouse, Assistant State Club Leader, will have charge of the Camp and State Club exhibit. The State Fair has provided $1,000 for the Club department, half of which will go as cash premiums to the Club exhibitors. Friends of the Boys' and Girls' Club Work will be glad, I am sure, to contribute to the maintenance of the Club Camp. It is a great educational feature of the State and deserves public support.

We are expecting each county to send its champion winner in each Club Project to the State Encampment. It may send more than one winner from each project, but no county will send more than ten representatives. Each group of boys and girls from a County will need a chaperon, and the county is expected to pay the transportation of the chaperons and Club members. The State Fair provides only for the meals and lodging while delegates are at the Camp.

This Camp is not open to the public for meals and lodging, but for the boys and girls assigned to it by the various counties where Club Work has been organized and Club Projects completed. Last year we frequently had self-invited guests to dinner.

Every boy and girl who attends the Camp this year must have worked out a Club Project, must have been a winner in his or her own county, and must make an exhibit in the State contest. Last year the members of the Camp were chosen by the County Superintendents because of good work done in school. This year, it is for Boys' and Girls' Club Work only. We expect five times as many exhibitors as we have attendants at the Camp. The lucky member should help the other four exhibit.

Each attendant at the Camp will bring a couple of blankets, towels, and toilet articles, drinking sup, knife, fork and spoon. Cots will be furnished by the Camp.

This Club Camp will be under military order—regular hours for everything and everything on time. The mornings will be given to demonstrations and contest judging work in Agriculture and Home Economics, while the afternoons and evenings will be employed in seeing the Fair.

The Camp will be open to receive the boys and girls on Monday morning, the opening day of the Fair. The first meal served at the Camp will be luncheon Monday noon. The regular program for work will begin Tuesday morning at nine o'clock. This will continue every day during the week till Saturday morning. Saturday we break camp and all are off, rejoicing over the achievements and rewards of another year, and for what each has learned of the State's resources through the exhibits of another State Fair.

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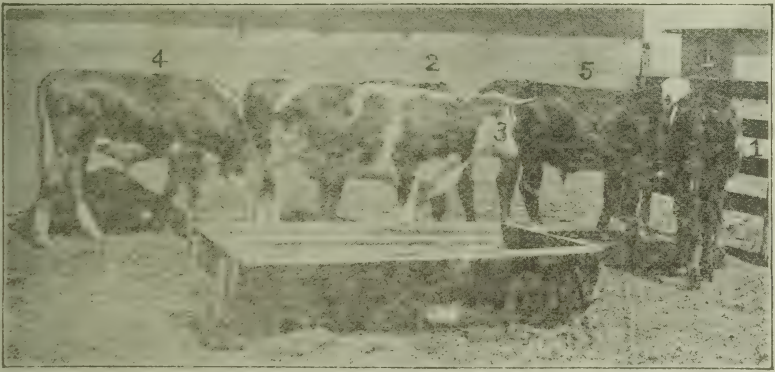
# THE NEW MEXICO FARM COURIER

VOL. IV. SEPTEMBER, 1916 NO. 10



STEERS FATTENED ON DRY-FARM CROPS
(See Page 3)

Published Monthly by The
Extension Division, New Mexico College of Agriculture and Mechanic Arts, State College, N. M.

In Cooperation with the U. S. Department of Agriculture.

# THE NEW MEXICO FARM COURIER

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## LIST OF AVAILABLE BULLETINS

The New Mexico Agricultural Experiment Station recently passed the one-hundred mark in number of bulletins issued. At least four regular bulletins are issued each year by the Station, and during the past two years, twelve have been published.

The list below shows the Station and Extension publication that are at present available, any of which can be secured free of charge by addressing the New Mexico Agricultural Experiment Station, State College, N. M.:—

No. 3. Preliminary Account of some Insects Injurious to Fruit.

No. 13. New Mexico Weeds, No. 1.

No. 14. Canaigre.

No. 29. New Mexico Sugar Beets.

No. 52. Onion Culture (Spanish edition).

No. 59. Forty years of Southern New Mexico Climate.

No. 60. Prickly Pear and Other Cacti as Food for Stock, II.

No. 61. Dry Farming in New Mexico.

No. 62. Pig Feeding.

No. 64. The Tuna as a Food for Man.

No. 65. Band Record of the Codling Moth and Notes on Spraying.

No. 66. The Range Problem in New Mexico.

No. 67. Chile Culture.

No. 68. Injurious Insects.

No. 69. Digestibility of Prickly Pear by Cattle.

No. 70. Sweet Potato Culture.

No. 72. Production of Denatured Alcohol from the Tuna and Other Sources.

No. 76. Peach Experiments.

No. 77. Tests of Centrifugal Pumps.

No. 78. Cacti in New Mexico.

No. 79. Alfalfa and Corn for Fattening Lambs.

No. 80. Carbohydrates in the Prickly Pear.

No. 81. The Grasses and Grass-like Plants of New Mexico.

No. 82. Growing Denia Onion Seed.

No. 83. Composition of Some New Mexico Waters.

No. 84. Wheat Growing Under Irrigation.

No. 87. Trees and Shrubs of New Mexico.

No. 88. Preliminary Tank Experiments on the Movement, Changes in

Composition, and Toxic Effect on Wheat of Certain Salts in Sandy Loam and Adobe Soils.

No. 89. The Hardiness of Fruit Buds and Flowers to Frost.

No. 90. Alfalfa Pasture for Pigs.

No. 91. The Utilization of Feed by Range Steers of Different Ages. I. Alfalfa Hay.

No. 92. Onions, Spinach, Cauliflower and Casabas.

No. 93 . Soil Physics and Soil Moisture in Relation to First Year's Growth of Alfalfa.

No. 94. The Grape Leaf Hopper.

No. 95. I. Probable Combination of Chlorine Ions in Alkali Salts. II. A Review and Discussion of Some of the Methods for the Determination of Alkali in Soils.

No. 96. Alfalfa Hay for Hogs.

No. 97. Tests of Submerged Orifice Headgates for the Measurement of Irrigation Water.

No. 98. Economic Feeding for Milk Production in New Mexico.

No. 99. Peas as an Orchard Green Manure and Cover Crop.

No. 100. Winter Protection of the Vinifera Grape.

No. 101. Feeding Range Steers.

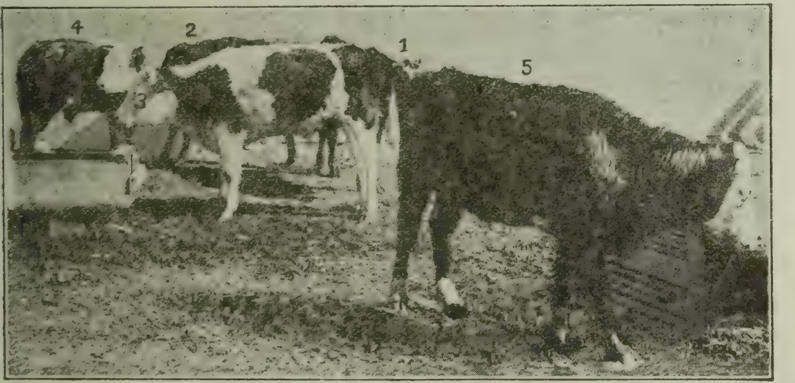
No. 102. Grasshopper Control.

In addition to the above, the following circulars issued by the Extension Division, in cooperation with the U. S. Department of Agriculture, are available for distribution:—

Circular No. 1. Home Economics Extension.

Circular No. 2. Facts About Silos for New Mexico.

Circular No. 3. First Lessons in Dairying in New Mexico.



New Mexico Range Steers at Beginning of Experiment.

These steers, after having been fed for 122 days on kafir corn silage, cowpea hay and ground milo heads are illustrated on the outside front cover page of this issue of the "Courier."

Details regarding the amounts of feeds fed, gains in weight, etc., will be given in a bulletin on the subject to be issued within the next few weeks by the New Mexico Agricultural Experiment Station, State College, N. M. A copy of the bulletin will be sent free of charge, on request, to any one interested in the feeding of dry-farm crops to cattle.

## NEW SORGHUM VARIETIES FOR CENTRAL AND SOUTHERN GREAT PLAINS

Four new varieties of sorghum which are worthy of trial in the Central and Southern Great Plains area are described in a new bulletin just issued by the U. S. Department of Agriculture. These varieties are the product of the introduction and crop breeding work of the Department.

Dwarf hegari is primarily a grain sorghum, but like Blackhull kafir it is valuable also as a forage plant. In general appearance it is intermediate between Blackhull kafir and feterita. It is almost, if not quite, as early in maturity as feterita, and at the Chillicothe, (Texas) Field Station, where it has been under test for five years, it has produced better seed crops than any other variety of sorghum, and has become quite popular with the farmers in that locality. Many farmers prefer it to Dwarf milo on account of its higher forage value and the greater ease of harvesting, due to the erect heads.

Improved feterita is a late importation of this variety of sorghum, having been obtained from Africa in 1908, two years after the first successful importation of feterita. It has been selected for uniformity and leafiness, and shows a higher yielding power than the earlier importation.

Dwarf feterita originated from a plant which was only 2½ feet high and two weeks earlier in maturity than the general crop of feterita. It has not fully retained either its dwarfiness or its earliness, but has made consistently high yields of grain and appears to be of some value where an early maturing grain crop is desired.

White milo is a variety of sorghum which has been grown to a small extent throughout Oklahoma and Texas for a number of years. A dwarf strain of this variety has been obtained by the Department, which very much resembles the ordinary Dwarf Yellow milo. White milo has given evidence of greater drought resistance than even the ordinary Dwarf milo and feterita.

These four varieties of sorghum were grown in field tests at the Chillicothe (Texas) Field Station for the years 1913, 1914, and 1915. Dwarf hegari made the highest average yield of both fodder and grain for this period, with Dwarf feterita second in grain yield, but lower in yield of fodder. At Amarillo, Texas, for the same period Dwarf feterita gave the highest grain yield, with Improved feterita second in grain yield and only surpassed by Blackhull kafir in the amount of fodder produced.

At Hays, Kansas, for the two years 1914 and 1915, White milo gave the highest grain yield and a fodder yield about equal to that of Dwarf hegari. The grain yield of White milo was about ten bushels greater per acre than that of the ordinary Dwarf milo.

It was found possible at Chillicothe, Texas, to obtain two grain crops in one year from Dwarf hegari and the two feteritas. The Dwarf milo, however, produced only one cutting.

The purpose of the bulletin is not to urge the general adoption of these new varieties in preference to the present standard varieties of the Great Plains. It is intended to serve as a source of information in regard to these varieties at a time when they are being sent out for trial among the farmers and it is believed that one or more of them is apt to fill the needs of certain limited localities and become of considerable importance within the next ten years. This bulletin, No. 383, "New Sorghum Varieties for the Central and Southern Great Plains," may be obtained free from the Department of Agriculture as long as the supply for free distribution lasts.

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## BEAN CULTURE

Much interest has been taken in bean culture the last few years. The bean is getting to be quite an important crop in the irrigated as well as in the dry farming communities.

The bean is one of the most drouth resistant vegetables that we have. If moisture enough can be had for germination, the plants usually make a crop even with a small amount of rainfall. Beans prefer a loam to a sandy soil; the heavy adobe soils are not considered suitable for them at all.

The native varieties are well adapted to our dry and hot climate, while many of the introduced Eastern varieties do not seem to adapt themselves to our conditions. In an experiment recently conducted at the Experiment Station with something like 50 kinds, practically all of the introduced varieties were affected, more or less, with some kind of a plant trouble. In some cases over 90 per cent of the plants died; but none of the plants of any of the native varieties were affected.

At the present time there are four principal native varieties of beans that are being grown. The famous New Mexico Pinto, which was formerly known as the Rosillo, and which is mentioned in the Twenty-Fourth Annual Report of the New Mexico Experiment Station, is one of the most popular varieties. Practically all of the beans grown in the dry farming districts are of this kind. It is showing great drouth resisting qualities, and produces a good yield, even under a small amount of rainfall. The Bayo, which looks something like the California Pink, is also a very good bean that is being grown quite extensively in the irrigated valleys. A medium sized yellow bean that was quite extensively grown in former years by the old native farmers is now being planted again, as one of the earlier varieties under irrigation. A new bean that is attracting considerable attention is the little white Tepary bean. Up to the present time this bean has not been thoroughly tested as to quality, but it is a great yielder and is proving to be as well adapted to our conditions as any of the other varieties.

### Method of Culture

It is important to get a good stand in order that a good yield may be had. Therefore, it is necessary that every bean planted should germinate. Under irrigation, frequently, bean growers fail to get good germination, while under dry farming conditions, lack of sufficient moisture results in the same thing.

Under irrigation there are two methods of planting beans, that are generally followed: the old Mexican method and the New Method. The New method consists, first, in thoroughly preparing the seed-bed, then in drilling the seed in, next irrigating to produce germination. The old Mexican method consists, first, in preparing the land for irrigation, next irrigating it so as to have moisture enough in the soil to produce germination. As soon as the soil is dry enough so that the plow will scour, the land is plowed with a small plow. The beans are planted in the furrows and covered as the land is being plowed. After the beans have been plowed under in the moist soil, the land is dragged over with any kind of a smoothing drag. In plowing the beans under they should not be over three or four inches in depth; otherwise, many of them may not come through. The rows are usually from 2 to 2 1-2 feet apart, and the beans are dropped in the furrows about a foot apart. If the beans are planted according to the New method in dry soil, and then irrigated to produce germination, they should not be planted over two inches in depth. The irrigation of the land after the beans have been planted tends to form a hard crust and if this is not broken up by harrowing, the stand may be poor, particularly if the beans have been planted a little too deep.

In many cases the Old Method has advantages over the New. If the land is properly irrigated and plowed and the beans are put in the right way, one may be able to get an almost perfect stand. There will be fewer weeds come up at first. By the time a crop of weeds is showing up, the beans will have made considerable growth. In the case of the New Method if one is not careful in the planting of the crop, or in the breaking of the crust after irrigation. the stand may be poor. A large crop of weeds is quite likely to come with the beans, making it necessary to cultivate and hoe the field more often, and also to irrigate a little more frequently. Judging from the results of the bean work up to the present time, it would be better to have moisture in the soil before seeding, rather than depend on irrigation after the planting of the beans.

Under dry farming conditions where there is no chance to irrigate, and where one is dependent on rainfall altogether, bean growers should try and conserve all of the moisture possible, and should take advantage of all of the natural conditions and plant the beans at the time when they can get the most good out of the moisture in the soil.

Beans may be planted from 2 to 2 1-2 feet between rows, and from 6 to 12 inches in the rows. Under irrigation they can be planted as close as 6 inches in the row, and 24 inches between rows, using from 30 to 40 pounds of seed to the acre.

As high as 1500 pounds of beans have been harvested from experimental plats at the Station. This a very good yield. As a rule 800 to 1000 pounds per acre are considered a very good yield for the average field under ordinary farming conditions. All of the native varieties mature in 90 days after the time of planting.

The bean beetle (Epilachna corrupta) is probably the most troublesome insect, at present, that bean growers have to contend with. As a rule, the earlier plantings are not bothered by this insect. The later plantings may be more or less affected by it, and consequently whenever it is possible, it would be better to plant the bean crop early, before the insects start to come out. Of course, under dry farming conditions, sometimes it is necessary to wait until the weather conditions are favorable. At the Station, beans that were planted as late as the 20th of July were mature and ready to harvest by the 8th of October.

FABIAN GARCIA.

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It is estimated that 150 carloads of beans will be shipped from Torrance County this year, for which good prices are being offered.

# Department of Animal Husbandry

## SOME POISONOUS PLANTS IN NEW MEXICO

Many plants, like animals, have some particular means of defense. Some are guarded by thorns and prickles, some have stinging or granular hairs, or possess a bitter or unpalatable herbage, while still others secrete deadly poisons for protection. In many cases their indigestible nature simply causes bloat, in some others the poisons secreted are virulent and deadly. Loco is a narcotic and affects primarily the nervous system; larkspur and death camas paralyze the voluntary muscles, while water hemlock and lupine appear to affect both the brain and muscular system.

The annual losses in New Mexico resulting from livestock eating these poisonous plants can not be far short of one million dollars, and may even exceed that amount.

During the last two months several letters of inquiry relative to poisonous plants were received and many specimens suspected of being poisonous to livestock have been sent to the Biology Department of the New Mexico Agricultural College for identification.

The aim in writing this article is to show stockmen, farmers, and others the importance of a wider knowledge of these poisonous plants and of preventive or remedial measures.

While poisonous plants cause heavy losses of livestock on the Western ranges, nearly all of these losses are produced by a comparatively small number of plants. It has been found as a matter of experience that while many stockmen recognize and avoid the plants which are likely to cause fatalities, there are many others who do not know what plants to avoid. The names "loco," "larkspur," "parsnip," "milkweed," and others are used frequently in a very indefinite way. It is believed that a brief description of some of the most common poisonous plants in New Mexico will aid the stockmen and farmers in avoiding losses.

A large number of plants have been called by the name "loco weeds," most of those which were suspected of being poisonous belonging to the botanical family Leguminosae.

### The Purple Loco Weed

**Astragalus mollissimus**, popularly known as the "purple loco" or the "woolly loco," sometimes known as the "true loco," is the plant that in the past has been considered as the most probable cause of loco poisoning. It rarely grows in the abundance which is characteristic of some of the other so-called "loco plants" but it may cover several acres. Purple loco is a silvery white leaved perennial six to twelve inches high with an abundance of soft foliage springing from a central stem close to the ground. The flower is usually purple in color.

### The White Loco Weed

**Oyxtropis lamberti**, is distinguished from the purple loco by its long lanceolate leaves and by the general habit of the plant, which is erect rather than decumbent. It has no true stem, and on this account is sometimes called the "stemless loco." The flowers are ordinarily on long stems and commonly are white in the Plains regions, although there is considerable variation in their color. It blossoms earlier than the purple loco. The pods of the White Loco are slender and filled with seeds, which, when the pods dry, rattle as a person passes through a patch of the plants, making a sound which closely resembles the warning of a rattlesnake. The white loco goes under the common names of "white loco" and "rattleweed."

### The Larkspurs

The larkspurs have been known to be poisonous from the time of the ancient Greek and Latin writers to the present. Two general groups of larkspur are found on New Mexico ranges—the tall and the low larkspur. Larkspurs are seldom known by any other name, although they are sometimes called "cow poison," or "poison weed."

The tall larkspurs produce many erect stems forming conspicuous leafy clumps becoming three to six feet high. The low larkspurs have solitary or few stems and are much less conspicuous. In all species the leaves are alternate and palmately divided into mostly toothed or deeply cut segments. The flowers of the dangerous kinds are some shade of blue or lavender and are borne in terminal erect racemes. The individual flower has a very characteristic shape owing to the spur-like backward development of the upper sepal. The numerous seeds are borne in dry, three-pointed pods one-fourth to three-fourths of an inch long.

Wild geranium is sometimes mistaken for larkspur when examined before the flowers appear, but it can easily be distinguished by the fact that the leaves bear two small appendages known as stipules at the base of the petiole or leaf-stem, while in larkspur the appendages are not present. Aconite, or monkshood, is sometimes confused with tall larkspur with which it often grows, but the upper leaves of Aconite are more numerous and nearly sessile, lacking the leaf-stem, and the flowers are conspicuously hooded instead of spurred.

The following list includes plants which are either definitely known to be poisonous to stock or are under the suspicion of causing serious trouble in New Mexico:

Water Hemlock, **Cicuta occidentalis.**

Death Camas, **Taxicoscordion species.**

Milkweeds, **Asclepias species.**

Lupines, **Lupinus species.**

Scouring Rushes or Horse-tail, **Equisetum species.**

Sleepy grass, **Stipa vaseyi.**

From any one having poisonous plants or having lost livestock due to poisonous weeds, data are requested as to the plant causing the death, the extent, etc., of the death of livestock, and other points that may give information on the study of Poisonous Weeds in New Mexico.

FRED C. WERKENTHIN,
Plant Pathologist in Plant Disease Survey.

## VARIATION IN THE FAT CONTENT OF CREAM

Dairying has become one of the principal sources of income in some sections of our State and in view of the fact that a great per cent of the milk produced by the farmers is separated and the cream sold to a creamery on a butter-fat basis, it is evident that the producer should know the fat requirements and the most important governing factors controlling the fat percentage. It is not uncommon to hear a farmer make the assertion that the creamery is not giving him uniform tests on his cream, when in reality, in the majority of cases, the variation is due to causes over which the farmer has complete control. The variation in the fat content of cream may be due to any one or a combination of conditions, the most important of which are as follows:

1. Temperature of milk at time of separation.
2. Speed of machine.
3. Rate of inflow.
4. Adjustment of cream screw.
5. Vibration of separator bowl.
6. Method of flushing bowl.
7. Sanitation.

1. It is generally known among our best and most practical dairymen that milk separates best if the process is completed as soon as the milk is drawn or at a temperature of 92 to 98 degrees F. For the most part this is true, considering all classes of separators. If it does not prove convenient to separate the milk as soon as it is drawn it should be heated very carefully to a temperature of at least 90 degrees before being run through the machine, as temperature influences efficient skimming.

2. Speed is a very important factor governing the efficiency of most cream separators. The machine should be turned according to the speed designated on the handle or included in the instruction book. Unless the machine is run at the required speed it cannot be expected to do efficient skimming or produce uniform testing cream; therefore it is essential that the machine be managed by one individual, as far as practicable.

3. Milk should never be permitted to enter the separator bowl until the machine has attained the proper speed. Other things being equal, the mechanical efficiency of skimming is dependent upon the rate of inflow. The machine should be inspected often, in order that the feed pipe leading from the supply tank and the valve may be kept in perfect working condition. Careless washing of these parts will lower the rate of inflow and may influence the percent of fat in both the skim milk and the cream.

4. The cream screw is subject to adjustment and care should be taken that it is not tampered with, when set properly. If the screw is set to skim at a desired percentage and is changed by some curious person or otherwise, the fat content of the cream will vary . Ordinarily, creamery managers desire cream that tests from 30 to 38 per cent, as cream testing between these percentages is handled more easily and is more desirable for butter making. When the creamery buys cream it does not usually care to bother with the skimmilk which is always present in low testing cream. Furthermore the farmer should retain the skimmilk and make economic use of it in feeding his young live stock.

5. The separator should be set up and adjusted properly in order that the bowl will not vibrate. A spirit level is used in leveling and some machines are set up according to a plumb-bob. Vibration of the bowl causes inefficiency in skimming and irregularities in the fat content of cream; also the vibration tends to destroy the mechanical efficiency by wearing the bearings and fine adjustments.

6. The bowl should be flushed with either warm water or a small amount of skimmilk. Care should be taken that the machine is still running at its required speed when flushed, and when the spouts are removed after the operation is completed, the spouts should be drained into their respective buckets or containers. The latter factor is often overlooked and consequently a variation in fat readings occurs.

7. Along with sanitation might be mentioned a number of conditions which should be observed by the farm-

er or producer. If the milk from which the cream is separated was produced under strictly sanitary conditions and the cream held at a temperature below 50 degrees F., the keeping qualities are greatly benefited. The farmer should ever keep in mind the fact that sanitation and cleanliness demand and receive recognition from the public, which is demonstrated by the consumer's willingness to pay for any commodity produced under such conditions. Space does not permit of a thorough discussion on the subject of dairy sanitation, which will be taken up in the future.

J. R. MEEKS.

# The Home Department

Edited by GAIL RICHIE, State Demonstrator in Home Economics.

## BREAD MAKING

Four things, at least, are essential for good bread making—good yeast, good flour, right temperature, thorough baking. With all these points, separately and collectively, we must mix another—good common sense.

**Yeast.** First on the list comes yeast. Yeast is a tiny plant—a single celled, colorless plant, so small that it requires a powerful microscope to make it visible. We know the requirements of larger green-colored plants, and we can apply this knowledge in our care of the yeast plant. The yeast requires food, moisture, air and warmth for its growth. The food and moisture are supplied through the ingredients in the dough, the air is furnished by the beating and kneading, while the warmth is easily supplied if the dough is kept at a moderate temperature. The yeast can stand a freezing temperature without much injury, but at this point it does not grow. A very hot temperature will kill the plant. We do not put boiling water on our geranium and expect it to grow. Neither should we expect our yeast plant to grow under such conditions. The best temperature for growth is 70 to 72 degrees F.

The yeast plant requires sugar for food. The growth of the plant on sugar produces a change, called fermentation, breaking the sugar down into new substances, alcohol and carbon dioxide. The housewife is familiar with this action in canned fruit. Occasionally, a jar of fruit will spoil or "work." We have seen the same thing happen to a dish of apple sauce on the pantry shelf. It becomes filled with bubbles and has a sharp flavor. The yeasts which cause the fermentation of cider are usually the wild yeasts of the air, unless in large factories where special varieties are added. Too much sugar, however, will prevent the growth of the yeast plants, as is seen in the case of preserved fruit, the amount of sugar being too great and the yeast plant unable to grow.

Now, every person who grows a garden knows there are certain conditions absolutely necessary if his garden is to be a success. He knows he must have a suitable soil, good seed, and enough moisture and heat. Besides all this, he must work the garden right, and harvest the crop when it is at its best. So the gardener selects his soil with care, secures viable, pure seed as free from weed seed as possible, and studies the needs of his plants as to moisture and warmth.

The bread maker is a gardener, but her soil is flour and her seeds are yeast plants. She adds milk or water to supply moisture, regulates the warmth, cultivates her crop by kneading, and harvests by the use of a good oven. Bread has been an important food for thousands of years. We read of the use of unleavened bread in Bible times. We can imagine how the bread leavened by yeast plants was first discovered. Suppose some one had mixed her bread and put it out in the sun to bake as was the custom in those days. Maybe the sun was not quite hot enough and when she looked at it again, it was full of bubbles due to some wild yeasts falling into it. But she went on and baked it and found it was more palatable than the other. There are a number of different varieties of yeasts, just as there are of many other plants. Many are found in orchards and in grape vines. Only one or two varieties have been found suitable for breadmaking. The other varieties are commonly called wild yeasts, and those which are kept for special uses are called cultivated yeasts.

For the purpose of breadmaking we have a choice of three forms of yeast—all the same variety, however. The so-called "dry yeast" on the market is made by taking live, growing yeast plants and drying them after mixing with corn meal. When dry yeast has been kept for a long time, many of the yeast plants die. Sometimes the corn meal used contains many micro-organisms which cause sourness. So when dry yeast is used as seed in our flour soil, the seed may be dead or it may have many "weed seeds" in it. If these conditions exist we do not get the crop we want, but our result is heavy, sour bread. Dry yeast requires more time for raising than either of the other kinds. It is a good plan when a new package of yeast is bought to try a piece in a small amount of warm water. If after ½ hour the yeast cake becomes puffy and bubbles appear, you may be sure your yeast is alive.

Compressed yeast is a form usually preferred, because it is pure, vigorous and will raise bread more quickly than either of the other two forms of yeast. It is obtained from beer vats in breweries, is separated by skimming, washed with water, freed from impurities by washing through sieves or by settling, pressed into bags in hydraulic presses, cut into cakes, wrapped in tin foil and kept cold until distributed for use. When fresh it should have a creamy white color, uniform throughout, should possess a fine even texture; it should be moist without being slimy. Its odor is characteristic, being somewhat suggestive of the apple. It should never be "cheesy," such an odor indicating decomposition; as does also a dark or streaked color. If breadmakers are where they can obtain fresh compressed yeast, they will find it easiest to work with and to secure uniform results. Homemade yeasts are essentially mixtures of flour, water, and potatoes, with dry yeast, found in the market or with other yeast as "starter." Homemade yeast is sometimes made into cakes as is the dry yeast of the market, but more often it is kept in liquid form or in that of a sponge. Much difficulty has arisen in the use and care of homemade yeasts because of a failure to appreciate the fact that yeasts are plants and therefore require conditions favorable for plant growth. Moreover, careless or uncleanly handling of the yeast in regard to the vessel in which it is kept allows bacteria to mingle with the yeasts. As these multiply they sometimes give an unpleasant flavor to the bread. The starter is good in experienced hands, but must be carefully cared for.

The woman who does not understand "why this yeast that made such good bread a month ago will not work now," will find a probable explanation in the fact that the yeasts have taken from the potato water or flour or sugar, all the food they contained for the yeast plant, and so it has died from starvation. Meantime the bacteria have increased in number and given an acid character to the bread, resulting in the familiar sour flavor so characteristic of certain homemade breads. There should be frequent bakings when "starter" is used or else the yeast plants should be given new food in the form of sugar and kept in a cool place.

**Flour.** Different varieties of wheat, when ground, yield flours having different qualities. There is in wheat a substance called gluten. It is that elastic substance we get when we chew wheat. It is because wheat has this gluten in it that we can use it to make light or raised bread. Hard wheat has a very elastic gluten in it, while soft wheat has a gluten not quite so elastic.

Spring wheat makes hard flour. Winter wheat makes soft flour. The spring wheat yields a flour that has a granular feel, has a larger proportion of gluten, will absorb more water, and is known as a "strong, hard wheat flour." The grains of the winter wheat are larger, softer, the flour has a powdery feel, a smaller percentage of gluten and a larger percentage of starch, and is known as a "soft flour." The woman who handles flour soon learns to distinguish the difference in feel. She should also know that the granular one will take up more water, or in other words, the spring wheat flour will require less flour to a given quantity of liquid than a winter wheat flour. Then if soft and hard wheat are the same price per sack, it is cheaper to buy hard wheat for bread because it will make more.

Color of flour is another way of telling the hard from the soft. New spring wheat flour is more creamy in color than winter wheat flour. A dull gray flour does not indicate a good flour for bread making. Whiteness is not necessarily a mark of excellence in quality of bread. Sometimes it indicates the use of bleaching agents.

**Graham Flour** is made by grinding the whole grain. Just after its introduction, Graham bread was widely used, because it was thought to contain more nourishment than white bread. But while it may show a higher amount of nutrients by chemical analysis, the additional fats and proteins are so mixed with the indigestible, woody material that they cannot be used in the digestive system and its actual food value is now known to be lower than that of white bread, and it is used for variety or because of its laxative qualities. Its laxative action is probably due in part to the mechanical irritation of the intestinal wall by the bran particles and also to the stimulating effect of the mineral salts in the bran. The cheaper grades of Graham flour are sometimes made by mixing an inferior grade of flour with bran.

**Entire wheat flour** is not made by grinding the whole wheat grain, as the name might indicate; part of the bran coats are removed. It is usually more finely ground than Graham flour.

### Liquid

A choice may be made,—water and milk, milk, milk and water, potato water, or buttermilk. In using milk, buttermilk, or potato water, some nutrient is added to the bread. Milk bread has a flavor and texture a little different from water bread. Milk should be scalded and cooled before using in bread making. The microorganisms that cause sourness in milk are thus heated until they all die. Only pure water or milk should be used. In adding potato-water we are adding starch, the kind upon which yeasts grow best. Some have the idea that bread in which potato water is used will keep moist longer than other bread, and while this is true to some extent, the moisture of the bread depends more upon the proportion of flour and liquid used and the care taken in testing the oven and in baking the bread the proper length of time, than it does upon the kind of liquid. Scalding hot milk or water should never be used, for it makes damp, clammy bread that never has a fine texture.

### Salt and Sugar:

Salt is added to improve the flavor. Salt in large quantities has antiseptic properties, but such a small quantity as is used in bread does not materially retard the growth of the yeast. Sugar is good yeast food, and hastens the growth of the yeast by being in such condition that the yeast plant can make use of it at once. It also improves the flavor of bread. An excess of sugar affects the tenderness of the crust and crumbs and darkens the color of the crust.

### Shortening:

Its use is optional; good bread can be made without it. Lard is said to produce the whiter loaf, and butter to give the better flavor. A small quantity, however, will have little effect.

### Recipes:

Long Process Bread, (1 loaf):

½ c. boiling water.

½ c. scalded milk.

½ tbsp. butter or lard

1 tsp. salt.

1-8 to 1-6 cake compressed yeast mixed to a paste in 2 tbsp. lukewarm water, 1-4 cake yeast foam or 1-2 cup liquid yeast.

3 to 4 cups flour.

2 tsps. sugar.

Method:—To the sugar, salt and shortening in a bowl, add the hot liquid. Cool to lukewarm and add the yeast that has been mixed to a paste. Add enough flour to make a batter that can be beaten. Beat thoroughly to mix ingredients and incorporate air. Cover well. Let stand in a warm place until quite light. Usually left over night. Add remainder of flour so dough can be handled, knead until the dough is quite smooth and elastic and bubbles appear beneath the surface. The mass of dough should be worked until it feels smooth and velvety to the touch and does not stick to board or hands. Place in a greased bowl, grease top of dough lightly to prevent forming a crust, cover and let rise in a warm place until it has doubled its bulk. Shape into a loaf, put in a greased pan and let rise again until double in bulk. Bake 45 minutes to one hour in an oven that will brown white paper to a delicate brown in five minutes. If the oven is a little cool the bread can be put in before it doubles its bulk. Some say put the bread in the oven as soon as it begins to rise in the pans.

Should the heat of the oven be uneven—one side hotter than the other—the pan should be turned twice before the end of the first half hour.

No brown crust should be formed until after the first twenty minutes of baking. The brown crust formed on bread is due to the starch of the flour being changed to sugar, and through chemical changes turns brown. Crust is more easily digested than the white interior. Make bread sticks for school lunches and children between meals instead of cake. Zwieback or twice baked bread is healthful. Small pans or long narrow pans are better than short wide ones, as they insure more thorough baking of the bread. Large loaves contain so much moisture that, once the crust has formed, it is difficult for sufficient heat to penetrate to the center. Loaves in single pans have a crust all around and are more likely to have a well-baked crumb. When several loaves are baked together the outside loaves may be dried up before the inside ones are done, or sometimes the bread is removed from the oven when the outside loaves are baked, leaving the others underdone.

### Keeping Bread

Place in air to cool. Do not wrap in a cloth until cool.

Brush top of loaf with butter or milk if desired.

When cool place in a tight metal box or earthenware receptacle to keep it from drying out. It should not be kept in a wooden receptacle, as wood absorbs the moisture. Clean the receptacle often. Scald and air it. Crumbs left behind will soon become moldy and cause fresh bread to be ill-smelling and bad tasting.

**Hot Bread** is about as completely absorbed as stale bread, but takes longer. It is not desirable for children, or people with digestive troubles.

Bread-making is a very interesting process and the person who goes about it systematically and with the idea of determining the reasons for certain methods and the causes of results, will be amply repaid.

## A DEFINITION OF GOOD BREAD

Bread should have a nutty and sweet odor. There should be no sour taste or smell.

Bread should be of fine, even texture with no large holes in it. When pressed with the finger, it should dent easily, but the dent should spring back to the level surface. If the dent stays in the bread, it is not sufficiently baked. If the bread is so hard you cannot press it easily, too much flour has been used in mixing.

The crust should be uniform in thickness on all sides of the loaf. It should be rather thin and should not be hard.

The bread should be baked in such pans that it will rise easily and be of uniform height in all parts.

These are the points kept in mind by home economics workers of the College of Agriculture in scoring breads at county fairs and other contests.—From "Extension News Service," University of Nebraska.

◆

The New Mexico Agricultural Experiment Station has just completed a small underground silo at State College. This is to be used for the making of silage from Russian thistles, to be used in experiments in the feeding of cattle tnd sheep. Extensive investigations are being carried on with the thistles, and there has been some difficulty in obtaining sufficient of them at the right stage of growth. The Station will probably be in the market for a small quantity of Russian thistle seed this fall.

# Boys' and Girls' Club Work

W. T. CONWAY, State Club Leader

## PROGRAM

### Boys' and Girls' Club Camp.

We take it for granted that active boys and girls want something profitable to do while attending the Club Camp, in addition to seeing the Fair and studying the various exhibits. We want them to get something that will help them in their Club Work in the future. The morning hours from nine to twelve will be devoted to study and demonstrations. The afternoons and evenings will be given to seeing the Fair and enjoying its privileges.

The Camp will open on Monday morning for receiving members. The first regular program for Club activities will begin at nine o'clock Tuesday morning. Monday will be spent in getting final exhibits in place. All exhibits, except baking and green vegetable displays, should be in place on Friday and Saturday previous. The exhibits will be judged on Monday and Tuesday.

An order for the day will be posted on the bulletin board every morning. The Camp will be under military discipline and every member should learn the various bugle calls the very first day and obey them promptly.

**Tuesday, September 26.**

9:00 A. M.

Assembly.

Greeting to members of Camp.

Responses.

Announcements.

10:30 A. M.

Demonstration on

Arrangement of Exhibits.

A study of Design, Compactness, Attractiveness, etc.

(Work in squads, each squad to have a leader).

**Wednesday, September 27.**

9:00 A. M.

Demonstrations:

(1) In Grain Judging by Score Card.

(2) In Making Germination Tests.

(3) In Treating Seeds for Diseases.

(For those interested in crops).

9:00 A. M.

Demonstrations:

(1) In Poultry Judging by Score Card.

(2) In Devices for Poultrymen.

(For those interested in Poultry)

9:00 A. M.

Demonstration:

(1) In Judging Vegetables.

(2) In Judging Potatoes by Score Card.

9:00 A. M.

Demonstrations:

(1) In Bread Making.

(2) In Judging Baked Products.

(3) Game—"Story of Bread."

(4) The School Lunch.

(For those interested in Cooking)

**Thursday, September 28.**

9:00 A. M.

Demonstrations:

(1) In Judging Pigs by Score Card.

(2) In Handy Devices for Pig Raisers.

(3) In Judging Dairy Cows.

9:00 A. M.

Demonstrations:

(1) Selection and Care of Clothing.

(2) Garment Judging.

(3) Contest—Identifying Textile Fabrics.

**Friday, September 29.**

9:00 A. M.

Demonstration:

Canning Vegetables and Fruits by the "Cold Pack Method."

11:00 A. M.

Three minute talks from representatives of each county on "The Value of the Club Camp."

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There will be an Assembly called some evening to announce the awards. If possible, we will know who the State Champion is in each of the Club Projects.

The W. D. Boyce premiums will be awarded to the County Champions present. These premiums are solid gold, 4-H, Club emblems.

We hope to secure a motion picture of every Club activity that goes on during the week at the Club Camp. These films will be shown over the state to those boys and girls who did their Club Work but who had to stay at home because the Camp was not large enough to entertain everybody.

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### A Gold Medal

The Club members will be glad to read the following paragraph from Mr. Mersfelder, State Director of Industrial Education:

"In order to further the great educational interest that is being manifested in the BOYS AND GIRLS CLUB WORK of this state, I am going to award a GOLD MEDAL OF HONOR to the boy or girl receiving highest honors in the State contest this year."

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### Club Work Conditions

On July 1 we had 1565 Club members reported to be actually at work. They were distributed among the several Club projects as follows: Field Crops 232, Garden and Canning 146, Pig Raising 169, Chicken Raising 381, Cooking 255, Sewing 382. In Miscellaneous projects we have 33. The individual members number 29.

These Clubs are working under 165 Local Leaders. Three communities have paid leaders for the summer. They are Albuquerque, Springer and Raton.

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### Every Club Member, Report!

We want every Club member who has done some Club Work and kept a record of what has been done to be sure and make a final report to the State Club Leader.

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## COW-TESTING CLUBS

### Scholarships for Boys and Girls.

The De Laval Separator Company has offered four $25 scholarships to the first ten States that apply for the privilege of this Contest.

The Contest is to run two months and must begin October 15, 1916.

Each club must consist of five or more members between the ages of 12 and 18. Five members must complete the work.

Each member must keep a record of feed, milk and butter-fat for one or more cows for a period of two months. This record must be kept in ink and give the following information:

1. Daily weights of milk from each cow by milkings.

2. Weekly test of butter-fat of each cow.

3. Various feeds fed and how much.

4. A monthly summary which will give costs and returns.

5. A short history of each cow as to breed, registry, etc.

6. A story, at the close, of not over 250 words, describing methods used, etc.

Mr. R. W. Latta, State Leader in Dairying, will have charge of the Cow-testing Clubs. Communities that wish to organize such clubs should write him at State College, N. M., and make application by October 1, 1916.

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# THE NEW MEXICO FARM COURIER

VOL. IV. OCTOBER, 1916. NO. 11.

*"Work and Knowledge are a stronger team than Work and Work"*

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GEORGE E. LADD..President of College
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY.....Director of Extension

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## AGRICULTURE AND PROSPERITY

It is impossible to measure, or even estimate, the importance of agriculture to a people. It is the foundation upon which civilization and society rest; the basis and source of the permanent wealth of a nation. No people in history have made substantial progress in civilization, the arts and sciences, and have remained long prosperous, if they have neglected agriculture. It is the most universal of all arts, the parent of manufactures and commerce, and the basis of all other industries, and without which all others must decay and perish.

Indeed, where a people have devoted themselves to agriculture they have been uniformly prosperous and progressive, while those nations and the people who have abandoned or even neglected it have declined.

The majority of all people, in all times and ages of the world, from the humblest to the highest, have engaged in agriculture. Presidents, emperors, kings and nobles have not thought it a condescension to be farmers, but rather an honor and a credit. The greatest names in our history have been those who were practical farmers and devoted to agriculture. We have been from the beginning, and must remain, a nation of farmers.

Our liberties were conquered and our constitution made mainly by farmers, and to them in any and every great crisis we must look for the safekeeping and protection of both.—H. G. Davis.

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Within the past few weeks a total of fifty-one young men have applied for release from the army in order to attend the New Mexico College of Agriculture and Mechanic Arts. Many of these were students the past year, though several have not as yet attended the College.

In spite of the fact that so many who desire to attend the College are at present serving on the border, there has been a slight increase in the enrollment, as compared with the same time last year.

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The dairy cow requires an ounce or more of salt a day, and while she should be given all she needs, she should not be forced to take more than she wants. It is best, therefore, to give only a small quantity on the feed, and to place rock salt in boxes in the yard—Farmers' Bulletin 743.

## CONCRETE WATER TANK

A good sanitary water supply is necessary on every farm. Where springs and running water are not present it is necessary to rely on wells and a tank big enough to hold 3 or 4-days' supply. Concrete is good material for such tanks. It is easy to handle, can be made in any shape or size, and is easily waterproofed. The sand and gravel necessary for constructing the tank are often found on the farm and if such is the case the cost of constructing is materially reduced.

A good mixture for concrete tanks is one part cement, two parts sand, and four parts broken stone or gravel. If neither gravel nor broken stone can be obtained, a mixture of one part cement and three parts of coarse sand can be used. The cement and aggregate should be thoroughly mixed and the resulting mixture well tamped or shaded when placed in the forms. After removing the forms the sides of the tank may be flushed with a mixture of cement and water to smooth up any little irregularities.

Heavy woven wire fencing may be used to reinforce the tank. Lap the ends of the reinforcing at least six inches. The reinforcing for the walls should be placed near the outer side and well covered with concrete.

It is preferable to have the forms of green lumber. If seasoned lumber is used, it should be dampened with water before the concrete is poured into the forms. This will prevent the dry boards from absorbing the moisture from the concrete, which, if permitted, would cause the walls of the tank to crack.

Make the bottom of the tank smaller than the top by sloping the inner walls. This will prevent ice from breaking the walls. The inner forms should be built so that they may be easily removed. A wedge can be used to advantage if the forms swell and are difficult to remove. Avoid heavy pounding and prying as green concrete is easily cracked.

While it is less difficult to build a rectangular form for the tank, the round type is stronger and calls for less concrete.

A band saw is best for cutting out the ribs for the round form, although a hand saw will do very well. As it is a difficult task to cut them out in a circle, saw out a triangular piece removing as much material as possible. Finish the circle by cutting out the remaining material with a good sharp hand ax.

The material needed for the construction of a six-foot concrete tank which will hold 400 gallons of water includes for outer form ribs, 3 pieces 2 inches by 10 inches by 14 feet; for inner form ribs, 9 pieces 2 inches by 8 inches by 12 feet; for outer form sides, 18 pieces 1 inch by 4 inches by 10 feet; for inner form sides, 14 pieces 1 inch by 4 inches by 12 feet; 10 sacks of cement; 20 cubic feet of sand; 40 cubic feet of gravel; and 36 feet of 30 inch heavy woven wire fencing.—M. A .R. Kelley, Missouri College of Agriculture.

## GOOD SILAGE IN SILOS OF ALL MATERIALS

One of the questions that comes up when a new silo is to be purchased or built is whether the material used in the construction of the silo has any influence on the quality of the silage. The Missouri Experiment Station has been studying this problem for two years. Samples of silage were taken at the wall and at the center in silos of the stave, iron, tile, Gurler, and concrete types. These samples were analyzed and the results compared. The results are given in detail in Research Bulletin 22 recently issued. The results of the analyses showed no difference in any way between the silage from the different types. No one should be persuaded to base the selection of the silo to be used upon the statement or supposition that one type of silo makes better silage than another. Any silo that has a tight wall that keeps out the air and is strong enough to withstand the pressure will preserve silage.

If the corn has sufficient moisture when put into the silo the only thing that can interfere with the making of good silage is the admission of air as the result of a poorly built silo or insufficient packing at the time of filling.—C. H .Eckles, Missouri Agricultural Experiment Station.

## CONTROL OF THE TOMATO WORM

The following was written by Professor Merrill, Biologist of the New Mexico Agricultural Experiment Station, in answer to a recent inquiry concerning method of combating the tomato worm:

"Your card of recent date was received. I judge you refer to a worm about an inch or more long that eats into the tomato from the outside. This is the young, or caterpillar, of the moth that gives rise to the corn-ear worm. The same worms happen to like tomatoes, so when there is not corn handy for them they eat tomatoes.

"The moth lives over the winter in the pupal stage,—little brown cases a half inch or more long that you may find when spading up the ground in the garden. These pupae hatch in the spring into the grayish-yellow moths. The moths lay their eggs on the silks of the corn just as it is coming out of the ear, or upon the tomato. The tiny caterpillars hatch out and eat their way into the corn or tomato. When full grown they crawl out and go into the ground to change into the second generation of moths. There may be more than two broods in a year. To control the pest the first thing is to prepare the land by plowing in winter. This breaks up the insect as it is in the ground and keeps them from hatching. Rotate the crop so as to make it harder for the moths to find the corn when they may come out. Tomatoes may be protected by planting a few hills of corn in the patch at such a time that the silks come out before tomato time. Planting at different times would be better.

"Good summer cultivations break up the pupae cases in the ground from the second generation.

A small patch of corn in the garden may be economically protected by dusting onto the silks when they appear a spoonful of powdered arsenate of lead. It is not practicable to dust a large field."

## FORMALIN TREATMENT FOR SMUT

The following is taken fom the New Mexico Experiment Station Press Bulletin number 198 on the treatment for smut:

Mix 1 pint of formalin with 50 gallons of water. The seed may be dipped into this solution in a basket or sack, or the solution may be sprinkled upon the seed. The essential point is that all of the kernels are thoroughly wet. Fifty gallons of the solution should treat about fifty bushels of seed. The treated seed should be dried soon after the treatment.

It will be seen from the above that

the formalin treatment of the seed for preventing smut is quite simple. It is also cheap and effective, and there is little danger of injuring the vitality of the seed.

Farmers should treat their seed wheat, seed oats and seed barley every year. The cost of treating sufficient seed is small, and the loss due to smutted grain is very large. Those smuts which are not controlled by this treatment are of comparatively little importance.

In using this treatment for oat smut, the temperature of the water should be above 50 degrees Fahrenheit; some authorities claiming that the treatment is not effective with oats if the temperature is lower than this.

## Prevention of Washouts of Small Irrigation Structures

A newcomer to an irrigated district often experiences trouble in the installation of small irrigation structures to prevent their washing out, so this short article is written more for his benefit than for an older hand in irrigation. Loss of time and money occur through not knowing a few good methods of putting in an irrigation structure that will not wash out, so the object is to give a few practical instructions regarding the prevention of the washing out of boxes and check gates.

After the box or check gate has been constructed, taken to the field, and the place selected for the installation, the "putting in" operation begins. If the ditch bank consists of heavy loam soils, a good method of installation is to make the opening a trifle larger than the box itself, fill the space between the sides of the box and the walls of the opening with a heavy clay loam or adobe and tamp the material in so as to become a mass harder than the surrounding ditch bank.

Most of the trouble is experienced by washouts where the ditch banks are made of a sandy soil. An opening is made in the ditch bank and is made large enough to receive the box and have several inches of space on either side. A board twelve inches wide or more, if necessary, is attached to the bottom of the box at the inlet and the outlet ends of the structure. These boards help to prevent water from washing under the box. Boards are also nailed to the ends of the sides of the structure, extending a foot or more into the bank and placed at a slight angle outward from the box. The empty space around the box is tamped with a heavier soil mixed with old alfalfa chaff or straw. The mixture is similar to that used in making adobe bricks. If the soil is very sandy, gunny sacks half filled with the above mixture can be used and tamped around the sides and in front of the box. Dirt should also be used to fill around the sacks. After the structure has been in place and the soil tamped around it for some time, it is well to let a small stream of water come in contact with the box, so as to saturate the soil and settle the ground as much as possible. The new ground will settle to some extent, and while it is doing so, keep tamping and filling in until the mass is firm. The tamping will cause a puddle and when the water is drained away a good mass of soil will surround the structure so that washouts will hardly be possible.

After the structure has been installed and the water has been flowing through it for some time, a person should not forget to watch it and tamp around the box at every opportunity, because no matter how well the box may be holding, a gopher is liable to burrow around the box and cause a washout.

D. W. A. BLOODGOOD

# Department of Animal Husbandry

## CATTLE FEEDS WASTED

### Farm Products that Might Go to the Economical Production of Meat Now Put to Less Profitable Uses.

A vast quantity of feed available for cattle is now either wasted absolutely or put to some less profitable use, says a recent report which the Department of Agriculture has just published as Part IV of a comprehensive survey of the entire meat situation in the United States. Failure to utilize the full value of this material has increased unnecessarily the cost of producing meat, has diminished the profits from cattle feeding, and has discouraged many farmers from engaging in an industry essential to their permanent prosperity.

According to the report already mentioned, the loss in grain straw and corn stover amounts to more than $100,000,000 annually. Both of these products are disposed of most economically when fed to cattle in connection with some form of concentrated feed. Straw is especially valuable in carrying the breeding-herd through the winter, in wintering stockers, and as a supplementary roughage for fattening cattle. Stover, too, is an excellent feed for wintering cattle, especially mature breeding cows. Nevertheless, in many sections of the country where these products are abundant, little attempt is made to take advantage of their value for these purposes.

Of an annual straw crop of approximately 120,000,000 tons, it is estimated that only two-thirds is put to its best use—livestock production. Of the remainder a little more than one-half is sold or turned under and the rest—15 per cent of the total crop—is burned. Burning is practically an absolute waste and although plowing under does contribute something to soil fertility, the benefit to the land is less than that which would be derived from the use of the straw to produce manure. "Of all systems of obtaining permanent soil fertility," says the report, "none is so practical or as easily available as that of feeding live stock."

The average value of all kinds of straw is placed at about $5 a ton. In many sections, of course, no such price can be realized for it, and as a matter of fact only about 8 per cent of the crop actually is sold. The figure mentioned, however, may be taken as representing the value to the farmer of straw if he will use it properly in his farming operations as feed or bedding. In order to illustrate how this may be done the report gives three sample rations for wintering a breeding herd of beef cattle on straw combined with silage, shock corn, and cottonseed or linseed meal. Any one of these rations, it is said, will prove economical. They are as follows:

**Rations for Wintering Breeding Cows**

| Ration 1. | Pounds. |
|---|---|
| Straw | 10 |
| Silage | 20 |
| Cottonseed meal or linseed meal | 1½ |
| Ration 2. | |
| Straw | 20 |
| Cottonseed cake or oil cake | 2 |
| Ration 3. | |
| Straw | 10 |
| Shock corn | 10 |
| Cottonseed meal | 1 |

In this connection it is pointed out also that feeding straw in the winter will insure under certain circumstances the full utilization of summer grass.

In a number of western States it frequently happens that grass goes to waste because feeders are unwilling to pay the high prices asked for steers in the spring. With an abundance of straw on hand to lessen the cost of wintering, feeders can take advantage of the lower prices for stock cattle in the fall to secure on reasonable terms at that time enough stock to pasture all the grass the following year.

The production of corn stover is about twice that of grain straw, amounting to approximately 245,000,000 tons a year. A larger percentage —81.5—of this is fed than of the straw but the waste is nevertheless astonishing. For this, poor methods of feeding are largely responsible. By far the most economical method of handling corn is by ensiling, but as a matter of fact only 8.1 per cent of the acreage was put in the silo in 1914, the year in which these investigations were made. About 11 per cent was cut for green feed and 81 per cent allowed to mature for grain. It is in the last portion of the acreage that the greatest waste occurs. Stripping the leaves from the stalks, which are subsequently burned, removing the stalk above the top ear only, leaving the stalks to stand in the field until the loss of leaves and leaching have removed much of their fertilizing value, are all unthrifty methods. Furthermore, almost four per cent of the stover is burned, as though, instead of being a potential source of revenue, it was merely a nuisance to be gotten rid of preliminary to plowing. In some States the percentage of stover that is thus thrown away is as high as 7 or 8 per cent and the total loss to the country from the practice is estimated at nearly $15,000,000 a year.

To obtain satisfactory results from the feeding of farm roughages such as straw and stover, they must be combined with some form of concentrated feed. At the present time large quantities of such feed, in the form of cottonseed meal and cake, corn, molasses, peanuts and beans are exported for the use of European feeders. If the straw and stover that are now wasted were employed to feed more cattle, these concentrates could be consumed at home. The result would be a tremendous saving not only in the cost of producing beef, but in the cost of enriching the soil as well.

The efficient use of these and other feeds discussed in the report is of the utmost importance to the American farmer, it is pointed out, because the day when close calculation in feeding was not necessary is, in all probability, past . Hereafter it is likely that success will depend upon ability to put to the best use all available products. A greater knowledge of what these products are and of the ways in which they can be fed will result in the elimination of enormous waste.

—Office of Information, U. S.
Department of Agriculture.

## SCABIES IN SHEEP

The following inquiry was recently received by the New Mexico Agricultural Experiment Station:—

"I wish to know if scabies in sheep affects poor ones more and quicker than those that are thrifty, also how quickly will it prove to be serious, once it has infected the herd? Could one, without much risk, feed out infected lambs, the feeding period to cover a few months?

"How long does it take for the disease to run its course?"

In answer to the above the following reply was sent by the Animal Husbandry Department:—

"In regard to scabies, we will state that this is a parasitic disease of sheep. It is one of the oldest and most common diseases of the skin.

"The disease is caused by a species of mite known as **Psoroptes communis, var. ovis.** The bites of the mites greatly irritate the skin, causing the animal to scratch; in fact, the animal does all in its power to relieve the intense itching. Consequently, the skin becomes inflamed and scabs form; the wool is either pulled or rubbed out, and the fleece becomes ragged in appearance. Mange on the horse and cow is commonly caused by the presence of this particular species of mite.

"Great care should be taken to inspect all animals purchased, for the presence of scabies, especially if the sheep came from or passed through the scab infested sections, as a preventive measure. Any animal showing signs of the disease should be quarantined at once and treated. The disease is contagious and spreads by contact either between two animals or a non-infected sheep rubbing against the same post that the infected animal used in attempting to get rid of the mites. Therefore, it is important to remove all infected animals and thoroughly disinfect all quarters.

"There are a number of treatments recommended for this disease, such as a two per cent solution of liquor cresolis, made up as a dip. Also the following dips are considered excellent for the destruction of the mite: the common tobacco dip; lime and sulphur; and the arsenical dip. Most of the dips mentioned are familiar to the sheep and cattle men of this section. Any of the cold tar dips are good. The Government recommends lime and sulphur as being the most satisfactory dip. Local parts of the animal may be satisfactorily treated by using a mixture or potassium sulphide ten parts, potassium carbonate two parts, and lard three hundred parts.

"If the animal has long wool, and scab formations on the skin, it should be sheared and then washed or scrubbed with soap and water preparatory to dipping, as the washing adds to the success of dipping. The best time to dip the flock is immediately after shearing. The temperature of the dip should be from 103 to 105 degrees, and each animal should be kept in the dip for two minutes, by the watch, not by guess. The head of the sheep should be completely immersed once. The entire flock should be dipped again ten days later, to insure complete control of the parasites. After the second dipping the flock should be taken to some portion of the farm or ranch that has been free from sheep for a period of at least four weeks.

"All the fences and corrals should be disinfected thoroughly, because the mites will remain on the posts and in the manure or bedding for some time. This is a vital point in the control of the disease, and is too often overlooked.

"None of our best feeders would care to purchase lambs for feeding that have scabies or show signs of it, because they do not feed well, and if they are neglected they will finally die.

"We would advise you to write the Bureau of Animal Industry, Washington, D. C., for Bulletin No. 159, which treats of sheep scabies. Also the South Dakota Experiment Station, Brookings, S. D., has published a bulletin on the subject; the number of the bulletin being 107."

### RAISING THE HEIFER CALF

All dairy writers agree that the best and cheapest way to build up and improve the milking herd, is to use a pure bred sire of the best breeding obtainable, and to raise the heifer calves. Many prospective good cows, however, are spoiled in the raising. They should not be forced, nor should they be stunted for lack of feed, and scours must be rigidly guarded against and promptly handled when it appears. Whole milk is far too valuable a product on which to raise the calf. Skim-milk with proper supplements will not make as growthy and fat a calf, but at two years the early advantage of the milk fed calf will have disappeared.

The following outline gives very briefly the best practice in raising the calf.

Separate the calf from its mother either when only a few hours old, or at an age of three or four days.

Let it get quite hungry before giving it its first meal of its mother's milk from a pail.

Feed often, three or four times a day at first, but never feed all the calf will drink.

Always have the pail scrupulously clean, and the milk fresh and warm, at blood heat. Unclean pails, over-feeding, and cold or partly soured milk are sure to bring trouble.

After the calf is ten or twelve days old, gradually replace with skim milk an increasing amount of the whole milk, substituting for the milk-fat concentrated feed. At first it may be best to mix with the milk a little ground flax seed made into a jelly with hot water, or some low grade flour, but at three weeks the calf should be getting its grain dry. This may start with a little bran and oil meal together with corn meal or ground kaffir or sorghum, but the grain may soon be fed without grinding except possibly in the case of the small hard grains.

After the calf is about three weeks old keep clean bright hay, preferably alfalfa, before it. After six weeks do not increase the milk or grain, but feed more hay; alfalfa has an excellent effect on the calf's system, and develops its capacity for handling lots of roughage.

Have all feeding regular, and make any changes gradually. Provide clean comfortable quarters, with opportunity for abundant exercise, plenty of pure water, and salt always accessible.

The heifer should not be bred to freshen under two years, and the second calf should come after a period of more than a year, so she can finish her growth.

R. W. LATTA.

# The Home Department

Edited by GAIL RICHIE, State Demonstrator in Home Economics.

### PICKLE MAKING

Having received a number of requests from New Mexico housewives regarding the art of making pickles of various kinds, we have gathered together the following tested recipes, trusting they will prove valuable to some one.

**Cucumber Pickles.** (Brine)

Wash cucumbers thoroughly. Drain. Place a layer of salt in the bottom of a keg or stone jar, then two layers of cucumbers, another layer of salt and so on until the receptacle is filled, or until all of the cucumbers have been used. No water is added. Place a board and weight on top of the cucumbers. Soon enough liquid will form to cover the pickles. More cucumbers may be added as they are gathered. When wished for use, place the required number of pickles in a jar, cover them with boiling water, let cool. Probably a second treatment of hot water will be needed. Prepare vinegar, mixed spices, and sugar if desired. Bring to boiling point and pour the mixture over the cucumbers. Let stand at least twenty-four hours before using.

### Sweet Pickles. (Canned)

Prepare as above except let stand in brine only twenty-four or thirty-six hours, then cover with the hot vinegar, mixed spices and sugar mixture, seal in jars if desired and set away for instant use.

### Mustard Pickles

Place washed cucumbers in a three-gallon jar. Mix

1 teacupful sugar
1 teacupful salt
1 teacupful black pepper
1 teacupful ground mustard,

and add to 1 gallon of vinegar. Cover the cucumbers with this mixture and place a weight over the top of them. This method requires no heating.

The above recipes are furnished by Mrs. J. M. Wheeler, Roswell, New Mexico, who has had twenty-five years' experience in pickle making.

### Chopped Pickle

#### Recipe No. 1.

Chop up:

1 gallon of green tomatoes
1 gallon of cabbage
½ gallon of onions
24 large green peppers
12 large red peppers.

Put all together in a vessel, cover with water, add about 1 pint of salt, and let stand over night. In the morning put all in a bag and drain 24 hours. After draining add 1 pint of white mustard seed. In a separate vessel boil 1 gallon of vinegar with 1¾ pound of brown sugar. When boiling hot, pour over the chopped vegetables. Put all on the stove together and cook about 15 minutes. Put in jars and seal while hot.

#### Recipe No. 2

Chop up 1 gallon of green tomatoes, 2 gallons of cabbage, and 12 medium sized onions.

If any juice runs out of the tomatoes, pour it off. Mix these together and add enough vinegar to make about 1 quart of juice. Then add:

1¾ pound of sugar
½ pound of white mustard seed
8 level tablespoonfuls of salt
2 level tablespoonfuls of celery seed
2 level tablespoonfuls of black pepper.
½ ounce of turmeric.

Put all in an enameled kettle and suspend in it a bag containing 2 level tablespoonfuls of whole cloves and 2 level tablespoonfuls of whole allspice. Boil for about 20 minutes. Put into jars and seal while hot.

### Green Tomato Pickle

Prepare 4 quarts of green tomatoes, 4 small onions, and 4 green peppers. Chop fine, put into enameled pan, sprinkle well with salt and let stand over night. In the morning drain off the brine from the vegetables. In a separate vessel put:

1 quart of vinegar
1 level tablespoonful of black pepper
1 level tablespoonful of mustard seed
1 level tablespoonful of celery seed
1 level tablespoonful of cloves
1 level tablespoonful of allspice
1 level tablespoonful of cinnamon

¾ cup of salt.

Bring to a boil and add vegetables. Cook 20 minutes after the pickle begins to boil. Fill jars and seal while hot.

### Chili Sauce

Scald and peel 24 ripe tomatoes; chop these up with 2 red bullnose peppers, 2 green bullnose peppers, and 2 large onions. Put into an enameled saucepan and add:

4 cups of vinegar
1½ cups of brown sugar
2 level tablespoonfuls of salt
2 level teaspoonfuls of whole allspice
2 level teaspoonfuls of whole cloves
2 level teaspoonfuls of cinnamon
2 level teaspoonfuls of ground ginger.
2 level teaspoonfuls of ground nutmeg.

Bring to a boil, stirring frequently to prevent scorching ,and boil until the sauce begins to thicken. The onions will then be well done. This should not take over an hour. Remove the vessel from the stove, put the sauce into jars, and seal while hot.

### Tomato Catchup.

Take 1 peck of red, ripe tomatoes, clean them, put them in a preserving kettle, and cook until thoroughly done. Mash them through a fine strainer to remove the seeds and skins. Add to this 8 level tablespoonfuls of salt and 1 level tablespoonful of cayenne pepper. Suspend in the tomatoes a flannel bag containing:

2 level tablespoonfuls of black pepper.
6 level tablespoonfuls of mustard.
1 level tablespoonful of cinnamon.
1 level tablespoonful of unground allspice.
1 level tablespoonful of cloves.

Boil as rapidly as possible until the catchup begins to thicken; then add 1 quart of vinegar and continue boiling until a teaspoonful placed in a saucer will not give off any water. Remove the bag containing the spices, put the catchup in jars or bottles, and seal or cork while hot. If paraffin is convenient, melt a small quantity in a saucepan, invert the bottle of catchup and dip the cork and upper part of the bottle neck in it. The paraffin will help to keep out mold spores.

### Pickled Onions

Peel small white onions, cover with brine, allowing one and one-half cups salt to two quarts boiling water, and let stand two days; drain, and cover with more brine; let stand two days, and drain again. Make more brine and heat to boiling point; put in onions and boil three minutes. Put in jars, interspersing with bits of mace, white pepper corns, cloves, bits of bay leaf and slices of red pepper. Fill jars to overflow with scalded vinegar to which has been added one cup of sugar to each gallon of vinegar. Seal while hot.

### Sweet Pickled Peaches.

½ peck peaches
2 lbs. brown sugar
1 pint vinegar
1 oz. stick cinnamon
Cloves

Boil sugar, vinegar, and cinnamon twenty minutes. Dip peaches in hot water, then rub off the fur with a towel. Stick peaches with the cloves. Put into syrup and cook until soft, using one-half of the peaches at a time.

Farmers' Bulletin 521, from which many of the above recipes are taken, and which contains many ways of using both ripe and green tomatoes, can be secured free of charge from the U. S. Department of Agriculture, Washington, D .C., or Extension Division, College of Agriculture, State College, N. M.

# Engineering Extension Work

## OIL TESTS AND THEIR MEANING

The Mechanical Engineering Department has had several inquiries relative to the various oil tests, especially those applied to gas engines. Probably the most important test for any oil is that of viscosity. Viscosity means, as applied to lubrication, the ability of the oil to adhere or its stickiness. For example, gasoline is highly non-viscous, whereas molasses is viscous. The less viscous the oil the easier it is squeezed out of the bearings and by the piston rings; consequently, the poorer the lubrication. However, if the oil is too viscous it will not flow properly and in that way the engine is poorly lubricated. Viscosity is expressed as the number of seconds for a given volume of oil under a given head to flow through a standardized aperture at constant temperature. Readings are generally taken at 100 degrees and at 212 degrees Fahrenheit. The terms light and heavy oil are often used and simply denote relative viscosity. The heavier the oil the greater the viscosity. The term has nothing to do with weight. A gallon of oil termed as heavy may actually weigh less than a similar sample of so-called light oil.

The next important test is that of flashpoint, and especially is it important as a gas engine oil test. The flashpoint is the lowest temperature at which the vapors arising from the heated oil will ignite without setting fire to the oil itself. This test is easily performed, by heating a small quantity of oil and passing a lighted taper over it, noting the temperature at which the vapors ignite. The weight of oil and the distance the taper is held above the flame should be the same in each test. The room should be without drafts, in order to make the comparisons. The purpose of the flashpoint test is apparent when one realizes the severe heat to which oil is subjected in the lubrication of internal combustion engines. The higher the flashpoint the greater the resistance of the oil to carbonization. It is imperative that the flashpoint temperature should not be below 400 degrees Fahrenheit when used for gas engine cylinders.

Another important test especially applicable to gas engine oils is the evaporation loss. The less the resistance to evaporation the greater the loss through the breather holes in the crank case of the motor. Tests of evaporation can be made by weighing a quantity of oil and heating it several hours at a temperature of 300 degrees Fahrenheit, then reweighing. The per cent lost by evaporation can at once be calculated by the difference in weight before and after heating.

A fourth test sometimes made in order to judge heat resisting qualities, is by heating a sample in a vessel until yellow vapors appear upon the surface of the oil. Then maintain this heat for about 15 minutes. Comparison of the heated and the unheated sample denotes the quality. Good oil may turn dark in color but remains clear and without sediment, even after standing several hours. Impure oil, on the other hand, turns jet black and if allowed to stand for several hours carbon-like sediment will settle out.

In cold climates the cold or chill test is of importance. The cold test is to find the lowest temperature at which oil will still pour. It can be performed by making a freezing solution, immersing a small vessel of oil in this mixture, and noting the temperature at which it will no longer pour. The results of this cold test can only be taken into consideration for their effect upon circulation through feed pipes, etc., and in no way indicate lubricating and heat resisting qualities.

Color tests are sometimes made on oils, but in no way do they denote the quality of an oil or its suitability for a given purpose. The fire test, which is the lowest temperature at which an oil will ignite and continue burning, is only of minor importance in judging oils. The fire test may or may not be several degrees above the flashpoint test mentioned above, and no matter how high the fire test if the flashpoint test is low the oil is not suitable for internal combustion engines. The specific gravity of oil is only of secondary importance in judging the quality of lubricating oils. The specific gravity is the ratio of the weight of a solid or liquid to that of an equal volume of water. The Baume hydrometer is used to find the specific gravity of oils. It is simply an instrument carrying a scale, which, when allowed to float freely in an oil or liquid sinks to a depth corresponding to the density. This test is usually made at constant temperature of 60 degrees.

Service tests of oils are also of use in the selection of proper oil for the engine. If a quantity of oil is drained from an engine which has been run for several hours the sample should show a change from its original yellow or reddish color to grayish-blue or black. However, if this sample is allowed to stand for several hours, sediment will sink to the bottom of the vessel and the oil above the sediment should appear comparatively clear and will be equally serviceable as when fresh. A poor oil used in the same test under like conditions of time, temperature, etc., will show a jet black color and if allowed to stand for several hours, the sample will only partly clear and will show a much larger amount of sediment. When tests of this kind are run under exactly the same conditions the amount of sediment remaining is an excellent indication of the relative merits of the oils.

The materials laboratory of the Engineering School is equipped to perform these oil tests. Any one wishing further information or tests made will receive prompt attention by writing to the Dean of Engineering, State College, N. M. A. F. BARNES.

## A NEW USE FOR AUTOMOBILES

Using automobiles as gopher-killing machines is the novel service to which cars have been put by Oregon farmers who have set about to kill gophers, and other burrowing animals that damage their crops. A car, preferably one that is light, is driven into the field where the gophers live. The engine is allowed to continue running and one end of a hose is attached to the exhaust while the other end is inserted in a gopher hole and packed about with a cloth and a little dirt. In a short time the fumes penetrate the various passages and issue from other holes. These are then plugged up; after this has been done the gases penetrate to the remotest chamber, and the inhabitants are suffocated. In a recent test a badly infested area of between two and three acres was rid of gophers by the use of 20 cents' worth of gasoline in this manner. The fact that no holes were reopened proved its effectiveness.—Popular Mechanics, August, 1916.

# Boys' and Girls' Club Work

W. T. CONWAY, State Club Leader.

## The State Club Camp.

The second annual State Club Encampment was named Camp Southard, honoring the President of the State Fair.

To simply say that the Boys' and Girls' Club Camp was a success is putting it mildly. It was indeed a great success, viewed from the educational viewpoint. Possibly some people saw only the spectacular side, as that is the principal thing looked for by such folks, but the very fact that every Club exhibitor had worked out his Club project and presented his record, shows there is something more to the Club Work than what appeared on the surface at the Camp. Each Club member attending the Camp was presumed to be a winner in his county. This was his credentials to his right to Camp privileges.

The Camp register shows the following enrollment in each of the Club projects: Crops, 39; Gardening and Canning, 5; Cooking, 25; Sewing, 32; Pigs, 22; Poultry, 23; 1 special, and 20 chaperons. Other Club members entered their products in the contest than those attending the Camp. There were 37 exhibits of poultry, 17 pigs, 34 cooking exhibits and 89 in sewing. The field crops were short, because it was too early in the season to make the best exhibits.

The winners in the several projects will be announced just as soon as the records and stories of all contestants can be read and graded. This is where the judging of Club products differs from that in other departments of the Fair. Not only is the score of the sample of the product considered, but the yield and cost of production must be taken into account before the winner can be known.

Captain J. H. Toulouse, Assistant State Club Leader, was Superintendent of the Club Camp and made ample provision for the comfort of the campers and for the display of their products. The State Fair, with the help of generous donations of friends, footed the bill for living expenses and premiums.

A framed, canvas-covered shed, about 24 feet wide and 160 feet long served as exhibits hall, model kitchen and assembly room, mess hall and main kitchen. On either side of this were rows of new house tents, floored and provided with cots for the boys and girls and chaperons. In front of all was the Superintendent's tent, with flag pole and "Old Glory" floating to the breezes.

The Camp opened for work on Tuesday morning. The bugle call at 6:30 hustled every fellow out of bed, and again to the exercise field at 6:45. At 7:30 breakfast was served and at 9 o'clock sharp the Camp assembled to hear the welcome from President Southard, who gave us freely every privilege the State Fair afforded. From nine to twelve each day followed our regular program of grain and livestock judging, cooking and canning demonstrations, and other activities pertaining to Club Work. It was really a four-days' short course in Agriculture and Home Economics for Club members in attendance. The afternoons and evenings were spent in seeing the State Fair, the city, the U. S. Indian School ,the State University, and other places of interest

On Thursday—Albuquerque Day—we put on an industrial parade tha captured the premium for the most extensive division and the most unique in its make-up. Floats for each Club project were provided by the Superintendent and in each of these floats were the Club members whose products scored highest in the contest. Following each float was a banner of that project and all its Club workers rallying to the standard. Heading the procession was the Superintendent with his bugler and orderly. Thousands cheered the State Club workers as they marched to "Dixie" and other national airs through the thronged streets of the city.

Some of the girls of the Club Camp sang at intervals when the band was not playing. It was indeed a great occasion to many of the boys and girls who never had seen so many people assembled in one company.

The Club motto is "Make the best better." This idea was well carried out in the second annual Club meet. not in the number of those in attendance, but in the character of their work and in the quantity and quality of exhibits. Those who know what Club Work is and what it means to the boys and girls of the State pronounce the second encampment a decided success and give their hearty approval to the movement. We want more boys and girls to join the Club Work and try for a place in the next encampment.

### Counties Represented

The following counties sent representatives to the State Club Camp which was held at the State Fair, September 25-30: Bernalillo, 10; Chaves, 7; Colfax, 10; Curry, 10; Dona Ana, 10; Eddy, 5; Guadalupe, 12; Grant, 11; Lincoln, 8; Luna, 7; Sandoval, 14; San Miguel, 6; Socorro, 13; Torrance, 23; Valencia, 10. Total, 156.

The record of attendance is not complete. We will consider it a favor if the above counties will correct any mistakes in these figures.

### Club Members, Attention!

Have you sent in your final report? If it is a crop report, send it in just as soon as the crop has been harvested and weighed or measured. Reports on all other projects are due now.

We want every Club member to report just what he has done, whether he thinks he has failed or succeeded. **We must have your final report before** we can give you credit for completing the year's work. Make out this report **now** before you forget it. Send the report to State Club Leader, State College, N. M.

### County Camp.

Assistant State Leader J. H. Toulouse packed his tents on Saturday, shipped them to Raton and set up for the Colfax County Camp on the following Monday.

This Camp is in progress as we go to press.

### Premiums.

The State premiums will be paid just as soon as we can grade the records and stories of those exhibiting at the State Contest.

Club pins will be awarded to all members making a satisfactory final report.

## LAND RECLAMATION CONTEST FOR BOYS.

E. I. du Pont de Nemours and Company, of Wilmington, Delaware, are making some liberal offers to the Boys' Clubs of the several sections of the country. The Western section includes Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming.

To the boys of this section showing the best results from a reclaimed acre of land commensurate with the cost of production, they will award the following cash prizes: 1st, $50.00; 2nd, $30.00; 3rd, $20.00.

The conditions are: 1. All entries must be in by January 1, 1917. Work may begin now. 2. The contest will close December 1, 1917. All reports must be in by that date. 3. Every contestant must reclaim and tend one acre of land. 4. Each contestant must keep a record. Blanks will be furnished for that purpose by the Du Pont Powder Co. Each final report must be verified by the County Agricultural Agent or two neighboring farmers, not relatives of contestant.

This is a good opportunity, especially for boys in a new country where the land must be reclaimed or put into cultivation.

As we understand it, this means bringing in raw land by any method whatever. It may be by draining subbed land, leveling ready for irrigation, grubbing and breaking sod land, or what not. While many contestants will doubtless use dynamite, none are compelled to use it in order to be in the contest.

We should like to see a number of our New Mexico Field Crops Club members get into this contest and work for the money.

## A MISUNDERSTANDING

We thought we had made a very plain and definite statement that every Club member attending the State Club Camp should send or bring his exhibit. Some members came and reported they were told not to take their exhibits, hence they lost out in the Contest.

We also said that nobody was eligible to join the Camp except Club members who had worked out a Club project. It was a bad mistake to send any boy or girl to the Camp who had not fulfilled the requirements. It makes no difference how diligent boys and girls have been in other lines of work, they should not have been sent to the Camp except for completing a Club project.

For a County to make either of the above mistakes subjects the Club Leaders to criticism, weakens the Club Work, especially in their own counties, and destroys the stimulating purposes of the State Club Camp. We trust that the mistakes will not be made again.

## NEW SILAGE MAY BE PUT ON TOP OF OLD

New silage may be put in the silo on top of the old if care in taken to clean off all that is dry or moldy and to level the surface This should be done just before the new silage is put in. The old silage will be as good when it comes time to feed it as it is now.—From "Press Bulletin." Louisiana State University.

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The following letter came to hand a few weeks ago from the President of a Boys' and Girls' Club in McKinley County:—

"Dear Friends:—

I am very sorry that none of the members of my club are sending exhibits to the Fair, but on account of our crops not being matured in time, none of our products will be exhibited this year. But we thank you very much for the instruction we have received from the College. I have visited some of our Club members and talked with them, and they said their crops were better this year than ever before. I have made more profit from my garden this year than I ever did. We all thank you for your help this season."

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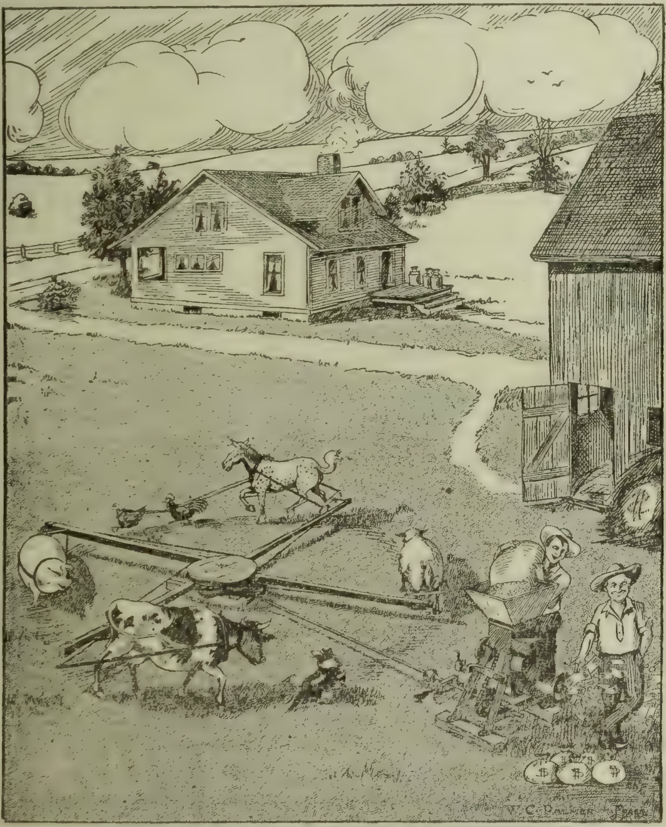
# THE NEW MEXICO FARM COURIER

VOL. IV. NOVEMBER, 1916. NO. 12.

## "EVERYBODY WORKS BUT FATHER"



"NEVER MADE ANY MONEY 'TIL I SET LIVE STOCK TO WORKIN' FOR ME."

Published Monthly by The
Extension Division, New Mexico College of Agriculture and Mechanic
Arts, State College, N. M.

In Cooperation with the U. S. Department of Agriculture.

# THE NEW MEXICO FARM COURIER

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County Agricultural Agents

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V. L. MARTINEAU, Raton, Colfax County
H. C. STEWART, Albuquerque, Bernalillo County.

As one travels over the State of New Mexico, he cannot fail to note the progress being made along agricultural lines. As compared with three or four years ago, the improvement is very marked. Not only is the livestock business in an unusually healthy and prosperous condition, but it is evident that better farming practices are being adopted. Silo construction is going forward rapidly, both in the dry-farming and the irrigated districts; dairy cows continue to be shipped into the State; and crops that a few years ago were grown only in a very limited way are now produced by the hundreds of thousands of bushels. It is estimated that the New Mexico bean crop alone will this year be worth about $1,200,000.

In the State as a whole, there is more farming and less speculating being done at present than at any time in the recent past. Years of experimentation have, in many cases, taught what the different districts are best suited to, as well as the best agricultural practices to be followed under the varying conditions of soil, climate, etc. There is also a greater tendency toward cooperation, and excellent results have already been secured by some of the cooperative associations of various kinds recently formed.

With the improved agricultural conditions have come, in many cases, better country schools, better roads, and improved living conditions generally.

With new and more drouth resistant crops being brought forward every year or two, and the demand for livestock products growing steadily, the agricultural outlook for the State is, indeed, promising.

* * *

In another column of this issue of the "Courier" will be found an article on "National Farm Loan Associations." Within the next month or two it is the intention to publish an article on how farmers may form such an association. In the meantime, if additional information is desired on the subject, it may be secured by writing the Extension Division of the New Mexico College of Agriculture and Mechanic Arts, State College, N. M.

Some of the farmers of Bernalillo County have already organized with the object of taking advantage of the Rural Credits Law passed by the last Congress.

# "EVERYBODY WORKS BUT FATHER."

By R. W. Latta.

Four years ago Father got the Manager idea in his head. He'd read a lot about the Efficiency man making a study of a business; how he made charts of it to find where the leaks were and where the profits came from. But to go back a little bit, father says that one day after he had had word from us boys that our business in the city was doing well, he just about concluded to sell the old farm, and try the city, too. Crops were getting poorer nearly every year, sometimes almost failed entirely. You see, the old farm had been producing hay and grain for years, and it used to be when the crops were sold, he'd pay off all his debts and have a lot of money left. But even then farm life was awfully dull. Mother drudged in the kitchen all the year round and father and we boys worked like slaves at planting and harvesting time. The rest of the year we loafed a good deal, and learned to hate the farm, and as often as we could find an excuse, drove to town in one of our old rattling buggies. It's no wonder we left the farm, but even in the city with business booming we haven't saved any money and it looks as if we shall always be paying rent.

Well, when father was feeling bluest, about ready to quit, he says he saw in the County paper that they were going to have a "farm expert" in the County who would show the farmers how to run their farms. Father says this rather riled him, even the write-ups in the papers about the "efficiency expert" in the factories made him angry. Mostly just to show him up, father asked the "farm adviser" to come out to the old farm and look it over. Well, that young fellow tried to learn all about farming from father, explained that it was his business to learn how the old timers had done, to help the newer ones. And that he was called a "County Agricultural Agent" because he was merely the agent of the State Agricultural College and the United States Department of Agriculture, sent to see that the farmers got some real help from those organizations. Father says he told him he'd been getting bulletins for years, had a stack of them in a closet, but they weren't any good to a real farmer. Well, that County Agent wanted to see the collection. He brushed some dust off the pile, and picked out four or five and laid them out on the table. One was about crop rotation, one about the value of barnyard manures, and the others about dairying and feeding livestock. Father had never quite got the hang of those bulletins, before, but the way that County Agent explained them, they seemed sensible enough. He asked father if he had tried out the lessons drawn, in the summaries of those bulletins, and if, as manager of his farm business, he could see a way to stop the yearly decrease in crop yields and revenue.

That's where the Manager idea started with father. He made the County Agent stay for supper, and most of the evening they talked about those bulletins, and rotations, and livestock. The result was father decided to keep and not sell the hay and grain he had on hand. Instead he borrowed money to buy hogs, and six cows, and a pure-bred bull calf. The County Agent helped him locate and select the stock, and he insisted that father buy the best that they could afford, even tho it meant several less head could be purchased. Then some forage crops were put in, plans were made to put down a pit silo, a little strip of cement floor was put in the barn for the milking stable, and cheap portable houses and pens were built for the hogs. That started a new era for the old farm. The next winter a small bunch of sheep and a few steers were pastured on the old alfalfa and fed out of the silo. Land that had been in alfalfa for ten years was plowed up and sowed to pasture and silage crops. Books were kept on each farm operation. Each cow was called to an accounting, her milk and feed weighed, and her profit figured. Even the chickens were culled over, roosters killed, and the old hens sold. Skimmilk made the hens shell out the eggs, and made the young pigs just grow like weeds. Cream checks and egg money kept the house bills paid, besides making paymen's on the borrowed money. The hog and other stock money went for more cows. Soon there was income enough to hire another hand and a girl to help mother in the house.

Now, the old farm is booming, again. Manure and rotation have restored the crop yields to the old high marks, and the cows and pigs and chickens turn the crops into high quality products that yield a big price for the feeds, and leave the fertility at home, to go back on the fields.

We boys are bound hand and foot to a city business, but now father and mother are having the time of their lives. At home father is General Manager of the farm, and away from home, in his big "six," he's a jolly public-spirited citizen, and all the time he's a booster for that County Agent and the Agricultural College. Yes, Everybody Works but Father, and we're looking forward to selling our business and becoming managers of farms of our own.

Two Brothers that Left the Farm.

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# NATIONAL FARM LOAN ASSOCIATIONS.

The following was recently sent out by the Federal Farm Loan Board as Circular No. 1:—

## Organization.

A national farm loan association may be organized in any community where 10 citizens owning land desire to borrow an aggregate of not less than $20,000. The land must be unencumbered or the proceeds of the loan must be used, in part, to remove any lien. Loans may be as small as $100, or as large as $10,000.

They must first make application, in writing, for a charter to the Federal land bank of the district in which the association desires to do business. This application must be signed by all those desiring to form the association, stating specifically the name under which they desire to do business, the amount each one desires to borrow, the estimated value of the security each one offers, the territory in which the association desires to do business, how the proceeds of the loan are to be used, and other details set forth in the blank forms which are furnished.

The application having been signed, together with another blank form furnished, called an "organization certificate," the applicants become a tentative organization and elect an agent to represent them, called a "secretary-treasurer"; they also select a committee of three, called a "loan committee." This agent will then receive, from each of the applicants, a subscription to the stock of the association they are forming equal to 5 per cent of the loan they severally desire, which is not required to be paid unless the loan is granted. That is, each borrower must subscribe for such stock to the amount of 5 per cent of his own loan and no more.

The application for the charter having been signed, the signatures must be acknowledged before a notary public or other officer qualified to administer oaths, and then it must be forwarded by the secretary-treasurer to the Federal land bank of the district.

Upon its receipt the bank will send its agent to examine into the representations made in the application and, if found satisfactory, a charter will be granted.

Upon granting of the charter, the individuals signing the application become a body corporate, which gives it the right to do the business authorized by the farm loan act, to extend its benefits to others by taking in new members from time to time, and to have succession indefinitely. New members must be borrowers whose loans may be as small as $100 or as large as $10,000.

Let it be plainly understood that farmers can organize at once, but they cannot borrow money until the land banks are established.

### Management.

After the charter is granted the applicants no longer act in their individual capacity, but become merged as shareholders into a corporation, which has a separate existence, created by law, under the same name which has been chosen and set forth in the original application and organization certificate. This corporation will have directors and officers selected by the shareholders to do its business in accordance with the by-laws which the shareholders make for their guidance. The active executive officer of the association will be the secretary-treasurer, and his duties are set forth in section 7 of the farm loan act.

### Powers.

These associations are organized for the primary purpose of giving to each borrower the benefit of the combined credit of all its members to the extent of the capital contributed and the limited liability they each incur, and hence the associations are required to indorse every loan made to members. It is also through these associations that the borrowers will ultimately become the owners of the Federal land banks. The association decides whether any loan shall be made or not by refusing the application for every loan which is considered unsafe or even doubtful. No loan can be made unless it is approved by the loan committee after examination of the land offered as security.

The national farm loan associations are not limited as to the number of their members. After one is organized it may serve an entire neighborhood by receiving new members. Each association may obtain in loans for its members twenty times the amount of its stock in the Federal land bank, no matter how large its holdings of stock may become by the growth of the association.

### Limitations.

1. No loan may be made except upon the security of first mortgages.

2. The amount of the mortgage can not exceed one-half the appraised value of the land and 20 per cent of the permanent improvements thereon, which must be insured.

3. The proceeds of the loan must be used for the extinguishment of preexisting indebtedness or for productive purposes, which includes the

purchase of live stock, fertilizers, equipment and improvements (see section 12, farm loan act).

4. Every mortgage must contain an agreement to pay off the debt (principal and interest) in fixed annual or semiannual installments.

5. The amount of each installment may be fixed by the borrower, but can not be less than sufficient to pay off the debt in 40 years, nor greater than to pay it off in five years.

6. The rate of interest charged any borrower can not exceed 6 per cent per annum.

7. The borrower can not be called upon to pay the debt except by the installments he originally fixes, unless he defaults, but after five years he may pay off the whole or any portion at his option at any installment period.

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## CUTWORMS.

### Description.

Cutworms are the naked, greenish or dusky larvae of a number of species of dusky-winged moths that fly at night for the most part. Cutworms full grown are about 1 1-2 to 2 inches long. Some seasons the numbers of the moths are so great as to constitute a very nuisance in themselves, altho they can not harm vegetation as do their larvae.

### Usual Life History.

The eggs laid by the moths in summer hatch into small caterpillars, or "cutworms," which lie concealed, usually curled up, just beneath the surface of the ground near tender parts of plants. They feed mostly at night. Later, cold weather and lack of food necessitate hibernation in the soil or under rubbish, weed piles, etc. In some parts of the State there are probably more than one generation of the moths in a year. In this case the last brood of the larvae hibernate. In the spring, feeding is resumed again. The damage is more noticeable at that time for the cutworms are fair sized, hungry, and vegetation is scarce. The greatest amount of damage is done at this time. After a time the caterpillars reach their full size, go into the soil to pupate, and later emerge, late in the spring and early in the summer as moths to lay more eggs for later generations. Alfalfa fields harbor enormous numbers of these cutworms

### Feeding Habits.

Most of the species of cutworms feed on the bases of the tender shoots of plants, cutting them off near the ground. They live naturally where there is dense vegetation, as in grass land, alfalfa, etc., and the damage done is not noticeable unless there is a scourge of the cutworms. The greatest damage is noticeable on sparse crops,—corn, garden crops, etc.,—that follow on land that was in a dense crop the year before,—e. g., corn on sod land.

Some species of the cutworms come out of the ground and climb up the plant stalk to feed, cutting off or eating leaves or shoots. They are called "climbing cutworms." The "army worm" is an example of this sort Under favorable conditions this species multiplies to huge numbers; eats out all nearby food and then starts out to hunt for more food, moving, myriads together, in the same direction The treatment for this species is so different in some ways from that for other cutworms that it should be treated separately.

Cutworms are not very particular, commonly, as to the kind of plants they eat, just so the food is succulent This fact renders control more difficult

### Preventive Control.

### Cultural Methods.

It is noted above that the cutworms infest grass lands, etc., particularly. The eggs are laid there in summer and the young larvae hibernate there in winter. If a sparse crop, as corn, garden truck, etc., is to be put on plowed grass land, then, the plowing should be done as early as possible in summer or fall when the growing cutworms are still feeding or even, if possible, before eggs hatch. The field should be kept free from weeds, until egg laying season is past if plowed before eggs are laid. Thus the food supply is taken from the cutworms and they die, and the crop put out in spring will be troubled very little. If the plowing is deferred until late fall, winter or spring, the young cutworms will not be injured so much. Then when the new crop is put on they come out and literally clean it up, because it is so much sparser than the grass crop that could harbor so many more cutworms with little noticeable damage. Early spring weeds should be kept down by harrowing or, in extreme cases, replowing.

The cultivated fields should be kept free from weeds, for the more weeds there are the more likely the moths are to deposit eggs there. If cutworms are present in cultivated fields in spring, do not fail to plow as above for the next crop, if possible. There is not so much danger when small grain crops follow other crops. **Clean fields should be kept, even if not for cutworm control.** The farmer can not afford to grow weeds at the expense of the crop being raised.

Garden and truck patches should always be cleaned up, plowed, and harrowed, as soon as the crops are off, in order to kill or starve out cutworms in the soil. A second plowing and harrowing in winter or spring will be effective, also, if cutworms are numerous.

### Remedial Control.

**Apply preventive measures always! Remedies are only for exceptional cases! Remedies are not very practical or effective on large fields.**

Many moths may be caught at night by placing a light above a tub of water. This will not reduce materially the number of cutworms, because the females do not fly far before laying the eggs. It will reduce the nuisance of having the moths in such numbers about the house.

In irrigated districts, water standing 6 or 8 hours on a field should kill many of the cutworms in the soil.

The best remedy is the poisoned bait made as follows: Mix 1 pound of Paris green with 25 pounds of dry bran . Add 2 or 3 quarts of molasses to 5 or 6 gallons of water and stir the mixture thoroughly into the poisoned bran. Let this stand for several hours before using. In infested fields scatter broadcast, in the evening, pieces of this bait the size of two or three fingers together. In gardens, strew the pieces along the bases of the plants being attacked. In this dry climate the application may have to be repeated to give best results.

If the climbing species are present some crops may be protected by spraying or dusting with arsenate of lead. From 2 to 6 pounds per acre should suffice, depending on the nature of the crop. Forage crops nearly ready for cutting should not be treated. The bait applied at bases of trees usually arrests the climbing species from ascending trees.

Tin cans with top and bottom out, or heavy paper cylinders, may be used to protect young plants set out in the garden by being sunk about the base of plant 2 or 3 inches.

Cutworms may be trapped under

pieces of board laid on ground through the garden and killed there in day time.

### Natural Enemies.

The insect pests and diseases of the cutworms sometimes kill them in such numbers as to prevent damaging infestation. In the spring of 1915 the parasites of one species of cutworm in the southern part of the State prevented the emergence of all but a very few moths from an excessive number of larvae. **But the natural enemies can not be relied upon to control the pest all the time.**

**The Preventive and Good Farming methods should be the first to be employed, always.**

D. E. MERRILL,
Biologist.

# Engineering Extension Work.

## Care of Automobile Storage Batteries

A recent automobile storage battery advertisement has the following to say regarding storage battery care:—

"The —— batteries are so rugged in construction and so long-lived in service that over 150 car builders put them in all their cars. But any storage battery will finally wear out and have to be replaced. Remember, therefore, that good quality is not all —good care is essential to protect your investment. By all means get in touch with the nearest service station at once and let the storage battery expert in charge explain the operation of your electrical system and how you can prolong your storage battery's life by attention to a few easily remembered details."

Proper care of batteries to insure satisfactory service and life includes the following important points:—cleanliness, maintenance of electrolyte level, maintenance of electrolyte density, care to exclude all foreign matter from cells, keeping the battery in a charged or nearly charged condition, and lastly, immediate attention to any cause for abnormal operation as indicated by failure of any of the above mentioned points to follow their accustomed cycle of changes.

Cleanliness is important, since it indirectly affects the efficiency and life of the battery. If dirt is allowed to accumulate on the tops of the cells, it eventually gets saturated with moisture and then becomes a conductor of electricity, forming a leakage path by which the charge in the cells is lost, running down the battery and causing sulphation of the plates. This dirt is also apt to fall or be blown into the cells when the vent caps are removed for inspection, thus introducing foreign material which will start local action and deterioration, reducing the capacity and life of the battery.

The importance of maintaining the level of the electrolyte cannot be overestimated. The solution should never be allowed to get below the tops of the plates. If this happens air will get at the plates and cause them to heat and sulphate, thus reducing the capacity and shortening the life of the cells. Evaporation of electrolyte should be replaced at least every two weeks with pure water. If for any reason some of the electrolyte becomes spilled, it should be replaced with an equal amount of electrolyte of the same specific gravity as that to which it is to be added.

The only true criterion of the state of charge of a battery is obtained by readings of the specific gravity of the electrolyte. In order that these readings may be of any great use it is necessary that the density of the solution in all the cells be maintained nearly constant and between 1.275 and 1.300 as read on a hydrometer when the cells are fully charged. This fully charged state is readily determined by the fact that the cells gas or bubble freely and the specific gravity of the solution remains constant for at least an hour while being charged. When discharged the gravity of an automobile battery drops to about 1.150 to 1.175, the gravity lowering proportionately to the amount of charge removed. The gravity of all cells should be evened up at least every six months by fully charging and introducing fresh electrolyte or water to bring the density to the desired point. Never under any conditions put acid directly into the cells, as this is ruinous. Mix the acid and water by pouring the acid slowly into the water and allowing to cool until the density is at least under 1.500. This strong electrolyte can then be added in small quantities to the cells to bring up the gravity if it is low. At least once a year, after fully charging, the solution from each cell should be emptied out, the cells thoroughly rinsed out several times with distilled water, and fresh electrolyte put in of 1.300 density.

Too much care cannot be exercised in watching that no foreign materials enter the cells. Particularly is this true of any of the metals such as copper or iron. These substances act with the materials constituting the cell and cause it to discharge internally continuously, thus consuming the charge and reducing the capacity. Eventually this process, which is known as local action, will cause sulphation of the plates and the ruin of the cells. The principal means of admittance to the cells is thru the use of impure water to replace evaporation and acid used in the mixing of electrolyte; also thru the vent, when the plug is removed for inspection, particles of dirt and metal salts from corroded treminals drop in. Be very particular that the water used to replace evaporation is pure. It is safest to use distilled water procured from a druggist or by melting artificial ice. Clean rain water that has not come in contact with any metal or dirt is also all right. Never use tap water or water that has been standing in a metal tank, as it always contains more or less iron dissolved in it. The use of impure water is probably directly and indirectly the cause of more battery trouble than all the other sources put together. The results are not at once apparent and continue to augment with each filling. Only water evaporates and any impurities which that put in contains are left behind in the cell, the amount of foreign material increasing with each filling until eventually serious local action is set up and the cell's capacity greatly reduced. This is immediately followed by sulphation of the plates and ruination of the cell

Sulphation is the formation on the plates of a white, insoluble, non-conducting compound from the active material of the plates and the electrolyte. The formation of this compound reduces the amount of active materials in the cell and thus its capacity. The reduction of capacity is in proportion to the amount of sulphation and of course when the action has gone far enough to reduce the capacity below that required to perform the functions for which the battery was designed, it is ruined and useless. Sulphation takes place only when the cell has become discharged. It is the natural sequence in the chemical action of a cell after the charge is removed from it. It is for this reason that a battery should never be left in a discharged condition. Because it is possible for parts of the plates in a cell to discharge more rapidly than other parts, thus becoming discharged locally while the cell as a whole still has some charge left, it is wise never to totally discharge a battery and thus perhaps allow parts of the plates to become sulphated and the cells' capacity reduced. For these reasons, always keep your battery as nearly charged as possible and never allow it to stand when completely discharged.

Since sulphation follows so closely on the heels of a discharged cell, anything which indicates that a cell is not functioning correctly should be given immediate attention by some one proficient in storage battery work.

Observance of these few fundamental points about storage batteries will tend greatly to lengthen the life and service obtained.

# The Home Department

Edited by GAIL RICHIE, State Demonstrator in Home Economics.

## THE SCHOOL LUNCH PROBLEM

The preparation of the school lunch is a very serious problem to most rural mothers with children of school age.

Many foods cannot be included in the school lunch, either because they are not good cold or because they can not be conveniently packed or easily carried. Since fewer foods are left to be chosen from, extra care is necessary to prevent sameness.

The growing child must meet the day's need of energy and must have extra food for growth. Therefore, in preparing the lunch at least three principles must be taken into consideration.

1. There must be included the proper food constituents for furnishing material for growth and repair of tissue, for giving heat and energy, and to supply mineral matter.

II. It must vary from day to day, so that the appetite may not flag.

III. There must be plenty. The active growing child requires more food, according to his size, than does an adult

In preparing lunches it is well to include:

1. Something liquid.
2. Something starchy .
3. Something meaty or "tissue forming."
4. Something fat.
5. Something fibery.
6. Something sweet.
7. Something savory.

That does not mean that there should be seven different kinds of food each day, for one food may be both meaty and savory, or sweet and fibery, but all seven characteristics should be present in every lunch.

### Starchy Food:

Perhaps the most important part of the meal, luncheon or otherwise, is good thoroughly baked bread. It may be white, brown, graham, rye, raisin, nut or date bread. Leave the crust on the bread as it furnishes exercise for the teeth which is as important as exercise for the body. Rolls,—the long narrow finger rolls,—make good sandwiches, partly because they are crusty and partly because by cutting them open and removing a part of the crumb a convenient place can be made for chopped meat or other filling. Boston brown bread made in a small loaf in a baking powder can makes attractive sandwiches. Zwieback is made by toasting bread in a very slow oven. It should be crisp and a golden brown. Jelly or jam may be put between very thin slices of Zwieback and packed in tin mint or wafer boxes to prevent crumbling. The use of different kinds of bread is desirable for it is an easy way to secure variety in the diet.

Very often so simple a change as baking the bread in a new form or cutting the sandwiches in a fancy shape will increase a child's relish for it, as will also a little change in flavor as produced by a few raisins, currants or nut meats.

In making sandwiches cut the bread evenly, leave the crust on, cream the butter for spreading and spread both slices of bread to prevent the absorption of the filling. Wrap the sandwiches in parchment or waxed paper to prevent drying out.

### Tissue Forming Foods:

Some tissue forming food, such as milk, cheese, eggs, meat (served sparingly), fish, poultry, dried beans, peas, and peanuts, should be contained in the school lunch. The cheese should be grated or finely chopped. It is unnecessary with such a variety to choose from to have each day in the lunch box an egg sandwich or a hard cooked egg. When eggs are used they should be cooked below the boiling point. Meat, for the school lunch should be thinly sliced or chopped. The fried beefsteak left from breakfast is not the tissue forming food to be used for the school lunch. Milk is the most important tissue building food for the young. It is rich also in the materials which make bone and teeth.

### Fatty Foods:

This does not mean something containing grease but something containing one of the good wholesome fats —butter, cream, bacon, olive oil, etc. If you have a child who needs building up, put plenty of butter on his bread, disguising it, if necessary, by putting plenty of other things with it. Thin slices of bacon combine with lettuce leaves to make wholesome sandwiches.

### Fibery Foods:

Fiber or cellulose is that substance which causes fruits and vegetables to hold their shape, though they contain little but water.

Fruits and vegetables are desirable in the diet, not only because of this network of fibers which they contain but because they contain minerals that are important for the child who is building up bones and teeth.

### Simple Sweets:

Cakes and cookies which contain little fat, plain candies, maple sugar, sweet chocolate, jellies, jams, preserved fruits, marmalades, dried figs, dates, raisins and other dried fruits give opportunity for variation in desserts.

### Suggested School Lunches.

1. Two plain brown bread sandwiches
   Two egg sandwiches
   Baked apple
   Sponge cake.

2. Two raisin bread sandwiches
   Two nut sandwiches (grind the nuts)
   Orange or other fresh fruit
   Ginger cookies

3. Toasted biscuits
   Cooked dried fruit in a cup
   Piece roast chicken.

4. Baked bean and lettuce sandwiches
   Apple sauce

Sweet chocolate.

5. Raisin or nut bread with butter
   Cheese
   Orange
   Maple sugar.

6. Crisp rolls, hollowed out and filled with chopped meat moistened and seasoned
   Orange, apple or berries
   Cake.

7. Slices of meat loaf or bean loaf
   Bread and butter sandwiches
   Stewed fruit
   Small frosted cake.

8. 1 Grated cheese sandwich
   2 bread and butter sandwiches
   Hot cocoa in Thermos bottle
   Danish apple cake.

9. 1 date sandwich
   2 peanut butter sandwiches
   1 individual rice custard
   1 cup of milk.

10. 1 cup hot bean soup
    2 bread and butter sandwiches
    2 slices of cinnamon toast
    1 cup custard or
    Prune whip and boiled custard.

11. 1 chopped egg sandwich made with thin slices of brown bread
    1 cup steam rice with butter
    1 square sponge cake
    1 orange.

One busy mother keeps such a list on her pantry wall as an aid in planning suitable school lunches in the limited time she has to spare.

Equipment Aids to Good Packing.

Lunch box
Waxed paper
Paper napkins
Cup or container with screw top
Drinking cup
Knife, fork and spoon
Thermos bottle or jar for milk and other liquids.

The food container should be one easily cleaned. This is the chief advantage of most boxes and pails. Baskets are ventilated and therefore suitable for carrying moist foods. Small holes can be punched in metal boxes or pails to provide ventilation.

Under no circumstances should a child be started off to school with his lunch thrown together in a paper bag or a newspaper. Such practice is not conducive to health or self respect.

Paper napkins and oiled paper are a boon to those that pack lunches and to those that eat lunches. Wrap sandwiches and other foods with waxed paper into separate, neat parcels that your child will not feel ashamed of as he takes them from the lunch box. Besides the advantage of being more sanitary, each of these parcels is a prize package. A pleasant surprise adds to the child's pleasure in eating and indirectly aids digestion.

The cup or container with tight lid is desirable, as it permits of variety in form of some moist food.

Children should be taught to sit down and eat their lunches in an orderly manner. Fifteen or twenty minutes of the noon hour spent in washing the hands and eating lunches without haste or confusion will give profitable results in improved deportment and better lessons.

It is a well known fact that cold lunches do not make for happiness. The body temperature of the school child is likely to be at rather low ebb when the noon hour approaches and a hot food is useful in stimulating the flow of the digestive fluids. Therefore, if possible, arrange some way to have a cup of hot cocoa, a bowl of soup or a small amount of one warm food, such as chowders, stews, creamed vegetables, etc., served to each child every day. Such a practice takes very little of the teacher's or older girls' time and has been found to have the following advantages:

1. Enables pupils to do better work in the afternoon.
2. Encourages pupils to take sufficient time to eat.
3. Gives opportunity to teach table manners.
4. Teaches neatness.
5. Gives some practical training.
6. Aids digestion as compared with school lunch.

Write to the Division of Publications, U. S. Department of Agriculture, Washington, D. C., for Farmers' Bulletin 712, which treats of "School Lunches," and for Farmers' Bulletin 717 on the subject of "Food for Young Children."

# Boys' and Girls' Club Work

W. T. CONWAY, State Club Leader.

The following are the girls who won in the Cooking and Sewing Club Contests held at Camp Southard, State Fair, Albuquerque, Sept. 25-30, of this year:—

| **A Class.** | | SEWING | Average Grade |
|---|---|---|---|
| 1st. | $7.00 | Flora Richards, Albuquerque, Bernalillo County, | 82 |
| 2nd. | 5.00 | Dorothy Hill, Socorro, Socorro County | 80 |
| 3rd. | 3.00 | Dolores Garcia, Albuquerque, Bernalillo County | 79 |
| | Five next best, $2.00 each. | | |
| | | Pasqualita Napetch, Albuquerque, Bernalillo County | 75 |
| | | Helen Begay, Albuquerque, Bernalillo County | 75 |
| | | Gertrude Lenthe, Albuquerque, Bernalillo County | 76 |
| | | Pasquala Abeita, Albuquerque, Bernalillo County | 77 |
| | | Willie MacVickers, Dexter, Chaves County | 75 |
| | Five Others, $1.00 Each. | | |
| | | Julia Masten, Cimarron, Colfax County | 73 |
| | | Mollie Anallo, Albuquerque, Bernalillo County | 73 |
| | | Marie Romero Albuquerque, Bernalillo County | 73 |
| | | Clara Brazel, Carrizozo, Lincoln County | 73 |
| | | Ula Edmiston, Carrizozo, Lincoln County | 72 |
| **B Class.** | | | |
| 1st. | $7.00 | Amelia Aragon, Raton, Colfax County | 89 |
| 2nd. | 5.00 | Margaret Blank, Albuquerque, Bernalillo County | 88 |
| 3rd. | 3.00 | Frankie Anderson, Raton, Colfax County | 83 |
| | Five next best, $2.00 each. | | |
| | | Henrietta Aragon, Raton, Colfax County | 82 |
| | | Beatrice Howarth, Raton, Colfax County | 81 |
| | | Leona Gaines, Deming, Luna County | 78 |
| | | Rose Walsh, Deming, Luna County | 77 |
| | | Letha Gaines, Deming, Luna County | 73 |
| | Five Others, $1.00 Each. | | |
| | | Ferol Plowman, Miami, Colfax County | 72 |
| | | Gladys Plowman, Miami, Colfax County | 72 |
| | | Helen Cumpston, Hagerman, Chaves County | 72 |

| | |
|---|---|
| Rosie Cornish, Cimarron, Colfax County | 72 |
| Mabel Cowan, Hagerman, Chaves County | 70 |

## COOKING

| | | | |
|---|---|---|---|
| 1st. | $7.00 | Lolita Hernandez, Bernalillo, Sandoval County | 86 |
| 2nd. | 5.00 | Ricarda Valdez, Bernalillo, Sandoval County | 85 |
| 3rd. | 3.00 | Candelaria Castillo, Bernalillo, Sandoval County | 84 |

Five next best, $2.00 each.

| | |
|---|---|
| Clara Torrence, McIntosh, Torrance County | 82 |
| Madeline Smith, Raton, Colfax County | 82 |
| Josephine Gallegos, Bernalillo, Sandoval County | 83 |
| Clara Lauterbach, Raton, Colfax County | 74 |
| Margie Lacey, Carrizozo, Lincoln County | 72 |

Five Others, $1.00 Each.

| | |
|---|---|
| Vivian Garton, Raton, Colfax County | 71 |
| Ruby Mattingly, Lucy, Torrance County | 65 |
| Blanch Simpson, Raton, Colfax County | 70 |
| Beryl Bishop, Faywood, Luna County | 64 |
| Alice Whitehill, Deming, Luna County | 57 |

B Class.

| | | | |
|---|---|---|---|
| 1st. | $7.00 | Mary Etchart, Springer, Colfax County, | 96 |
| 2nd. | 5.00 | Beatrice Howarth, Raton, Colfax County | 90 |
| 3rd. | 3.00 | Margaret Beagle, Magdalena, Socorro County | 78 |

Five next best, $2.00 each.

| | |
|---|---|
| Louisa Dolozier, Texico, Curry County | 64 |
| Bessie Simpson, Raton, Colfax County | 68 |
| Helen Weaver, Dexter, Chaves County | 72 |
| Grace Tudor, E. Vaughn, Guadalupe County | 75 |
| Anabel Flournoy, Albuquerque, Bernalillo County | 74 |

Five Others, $1.00 Each.

| | |
|---|---|
| Annie Conlin, E. Vaughn, Guadalupe County | 56 |
| Louisa Sebastian, Raton, Colfax County | 63 |
| Nedra Bayne, Raton, Colfax County | 61 |
| Aline Rayburn, Albuquerque, Bernalillo County | 58 |
| Eva Garcia, Raton, Colfax County | 54 |

## POULTRY CLUB.

The following is a list of the State winners in the Poultry Club Work who exhibited at the State Club Camp, Albuquerque:—

A Class.

| | |
|---|---|
| Sarah Herrick, Socorro, Grade 86, First Premium | $7.00 |
| Ruth Watts, E. Vaughn, Grade 78, Second Premium | 5.00 |
| Gladney White, Carrizozo, Grade 69, Third Premium | 3.00 |
| Annie Davidson, Belen, Grade 67, Fourth Premium | 2.00 |
| Palma Mordecai, Texico, (no report) | |
| Dora Humphrey, E. Vaughn, Special for Turkeys | 2.00 |

B Class.

| | |
|---|---|
| Cora Vanden Bout, Dexter, Grade 92, First Premium | $7.00 |
| Victor Baday, Albuquerque, Grade 91, Second Premium | 5.00 |
| Georgiana Gallon, Carlsbad, Grade 90, Third Premium | 3.00 |

| | |
|---|---|
| Margaret Blank, Albuquerque, Grade 89, | 2.00 |
| Edith Morgan, Albuquerque, Grade 87, | 2.00 |
| Charles Wright, Albuquerque, Grade 85 | 2.00 |
| Ollie Gates, McIntosh, Grade 85 | 2.00 |
| Robert Arnot, Albuquerque, Grade 81 | 2.00 |
| Howard Deiley, Albuquerque, Grade 80 | 1.00 |
| Albert Monkavicz, Albuquerque, Grade 75 | 1.00 |
| Jennings McMillan, Las Vegas, Grade 72 | 1.00 |
| Stanley Myer, Socorro, Grade 71 | 1.00 |
| Luther Moore, Albuquerque, Grade 71 | 1.00 |
| Saferina Griego, Bernalillo, Grade 68 | 1.00 |
| Louisa Delozier, Texico, Grade 67 | 1.00 |
| Siegfried Micheals, Magdalena, Grade 65 | 1.00 |
| Lloyd Conlin, E. Vaughn, Grade 56 | 1.00 |
| Nadine Lynn, San Marcial, Grade 55 | 1.00 |
| Louise Darras, Willard, Grade 55 | 1.00 |

### Specials.

### RABBITS.

| | | |
|---|---|---|
| 1st. | $3.00 | Toby Bruno, San Marcial, Socorro County |
| 2nd. | 2.00 | Max Pray, Albuquerque, Bernalillo County |

### PIGEONS.

| | | |
|---|---|---|
| 1st. | $3.00 | Chas. Wright, Albuquerque, Bernalillo County. |
| 2nd. | 2.00 | Roy Allen, Albuquerque, Bernalillo County. |
| 3rd. | 1.00 | Milton Dow, Albuquerque, Bernalillo, County. |

## STATE WINNERS IN THE PIG CLUB.

### Breeding Class.

| | |
|---|---|
| John Henderson, Lake Arthur, Grade 86.5, First Premium | $15.00 |
| Robert Strickland, Roswell, Grade 85.3, Second Premium | 10.00 |
| Clarence Fite, Hope, Grade 84., Third Premium | 5.00 |
| Marie Heinz, Texico, 81.4, | 3.00 |
| Lyle Moots, Lake Arthur, Grade 80.6, | 3.00 |
| Anthony Bogardus, Roswell, Grade 78.3 | 3.00 |
| Robert Pistole, Artesia, Grade 73.5 | 3.00 |
| Albert Mulkey, Progresso, Grade 60.0 | 3.00 |

Note.—There were six other pure bred pigs exhibited but up to date (Nov. 7) the boys have not sent in their records and stories. This deprives them of their premiums which they would have received if they had turned in their records so that the cost of production could have been calculated.

### Fat Hog Class.

| | |
|---|---|
| B. A. Nymeyer, Loving, Grade 83, First Premium | $12.00 |
| Earl Micheal, E. Vaughn, Grade 82, Second Premium | 8.00 |
| Henry Terpening, Artesia, Grade 69.3, Third Premium | 4.00 |
| Lawrence Bledsoe, Willard, Grade 67 | 2.00 |
| Elfego Baca, Belen, Grade 67 | 2.00 |

Note.—There was one other fat pig exhibited, scoring 70, but the exhibitor failed to give his feed record, so will not receive his premium.

State Winners in Field Crops and Garden and Canning will be announced in the December issue of the Courier. All Field Crop reports are not yet in. We urge those in Crops to make their reports as soon as possible.

DO YOU KNOW,

## Mr. Farmer and Wife

THAT AT YOUR

# State Agricultural College

MESILLA PARK,

## January 8 to 13, 1917

A BIG

# Farmers' Week and Home Makers' Conference

IS TO BE HELD FOR YOUR SPECIAL BENEFIT?

*YOU ARE REQUESTED TO BE PRESENT.*
*YOU CAN'T AFFORD TO MISS IT.*
*MAKE PLANS NOW TO ATTEND.*

Prominent speakers, who are experts in their lines, from many parts of the United States, have already been engaged for the program.

*A real educational feast along Agricultural and Home Economics lines is assured.*

REMEMBER THE DATES:
JANUARY 8 TO 13, 1917.

*For programs and further information address*

## EXTENSION DIVISION,

STATE COLLEGE, N. M.

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Cop 1

# THE NEW MEXICO FARM COURIER

VOL. V DECEMBER, 1916. NO. 1

## *Reasons Why the New Mexico College of Agriculture and Mechanic Arts*
## *Should be More Liberally Supported by the Legislature.*

### ARE THEY CONVINCING?

Because it is a very important educational institution.

Because it is vastly more than an educational institution.

Because it is engaged in a study of the agricultural problems of all sections of the State.

Because it is actively engaged in promoting the welfare of the farmers and stockmen.

Because it is doing everything possible to broaden and extend local interest and pride, into State interest and pride, i. e., to make our widely separated centers of population united on all matters of common interest.

Because it has begun the important work of helping women, in rural communities and on the farms, to secure the better conditions of life to which they are entitled.

Because it knows that there is always something new to learn about agricultural problems.

Because it is disseminating (as fast and as broadly as its income permits) the most advanced knowledge of the science of farming.

Because it recognizes that standardization, adaption to soils and climate, seed selection, and the combating of plant diseases and animal and insect pests, are matters of supreme importance to our farmers, and it has spread valuable information on these subjects as rapidly as possible.

Because it maintains in success- (Continued on page 2, column 1)

**Published Monthly by The**
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**In Cooperation with the U. S. Department of Agriculture.**

# THE NEW MEXICO FARM COURIER

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GEORGE E. LADD..President of College
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY....Director of Extension

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W. L. ELSER, State Leader Farm Management Demonstrations and Assistant State Leader County Agents.
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J. H. TOULOUSE, Assistant State Agent Club Work.
GAIL RICHIE, State Demonstrator in Home Economics.
R. W. LATTA, State Agent Dairy Extension.
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H. C. STEWART, Albuquerque, Bernalillo County.

## REASONS WHY THE NEW MEXICO COLLEGE OF AGRICULTURE AND MECHANIC ARTS SHOULD BE MORE LIBERALLY SUPPORTED BY THE LEGISLATURE.

(Continued from page 1)

ful operation an Experiment Station which is carrying on each year, under scientific management and direction, at least fifty projects dealing directly with farm and stock problems of New Mexico.

Because its Extension Service has been organized on such an efficient basis as to elicit the special praise and commendation of the U. S. Department of Agriculture.

Because its Extension workers have, during the past year, travelled one hundred and seventy thousand miles in automobiles, and seventy-five thousand miles on railway trains, carrying aid to New Mexico farmers.

Because it is answering by mail, twenty-five thousand questions per year from farmers in the State.

Because it distributes one hundred and fifty thousand publications yearly within the State, and because its publicity -agent supplies the newspapers of the State with agricultural information, each week.

Because it has been of great assistance to many county agricultural fairs and to the State Fair at Albuquerque.

Because it believes that the farm area in New Mexico can be greatly extended and the population greatly increased, and is working to these ends.

Because of its work on the drainage and reclamation of large areas of submerged land on the Rio Grande.

Because its sympathies and aid are extended to our Spanish and English speaking farmers, indiscriminately.

Because by investigations in our chemical laboratory a method of eliminating poison from the waters of deep wells on cattle ranges was discovered.

Because there is a very large demand made on our chemical laboratories for the analysis of soils, fertilizers, waters, etc.

Because it has recognized and checked two epidemics of hog cholera, which but for its work, would have cost the farmers of the State more than half a million dollars.

Because it is working to quadruple

the value of poultry, and the value of eggs produced in New Mexico.

Because it is working to improve and increase the dairy stock in New Mexico.

Because it has done and is doing a great work in building up the hog industry on New Mexico farms,—improving breeds and increasing numbers.

Because it recognizes the need of an agricultural marketing bureau in New Mexico and has established one at the College, cooperating with the U. S. Department of Agriculture .

Because its organization has been perfected and its work conducted without reference to race, religion, politics, or any consideration except the promotion of the welfare of all the agricultural interests of New Mexico.

Because it knows and is working on the basis of the knowledge that the farming industry and the stock interests of this State can be so helped and promoted as to add many millions to the property values, and the annual sale of farm products.

Because of the significance of the following statistics selected **from twelve pages of similar data,** taken from the Annual Report of the Director of our Extension Service:—

Four thousand and sixty-three visits were made during the past year to individual farmers.

Three thousand and ninety visits were made by farmers to offices of county agents.

Six hundred and two farmers' meetings were held, with a total attendance of thirty-six thousand four hundred and twenty.

Twenty-two farmers' clubs were organized.

Three thousand two hundred and forty-one telephone calls were received by county agents.

Twenty-four thousand six hundred and seventy-five head of stock were treated for blackleg, through or by county agents.

Two hundred and twenty-nine registered stallions, bulls, cows, rams and boars were secured through county agents.

Seventy-nine meetings, with total attendance of thirty-two hundred, were held by our dairy expert.

One hundred and seven meetings were held by our Director of Home Economics, with a total attendance of thirty-five hundred women.

One hundred and sixty-eight boys' and girls' agricultural clubs were organized, with an enrollment of one thousand four hundred and sixty-three.

One hundred and forty-three meetings and demonstrations were held, of our boy's and girl's clubs, with five thousand two hundred and seventy-seven in attendance.

Because the College is successfully working on the problem brought to its attention by the U. S. Department of Agriculture, namely: that in January, 1916, New Mexico horses were valued at fifty-eight dollars per head, while those in Colorado, were valued at ninety dollars per head, so that through the poor quality of our two hundred and thirty-four thousand horses our farmers lose, in the comparison, seven million four hundred and eighty-eight thousand dollars. At the same time New Mexico sheep were valued at four dollars and thirty cents per head, while those from Nevada were valued at five dollars and eighty cents per head, thus making a relative production loss (in our three million four hundred and forty thousand sheep) of six million six hundred and sixty thousand dollars. The loss in the value of our annual wool product, by a similar comparison, amounts to seven hundred and fifty-four thousand dollars. In these three items, therefore, through inferior breeds, our loss amounts to approximately fifteen million dollars.

Because the College believes that the hog, poultry, and dairy industries of the State can be increased in value by from five to ten million dollars,—because the College believes that our field crops can be increased in value within five years, by the application of scientific methods, and with present acreage only in cultivation, by five millions.

**Finally,**

**Because, exclusive of the millions that can be saved to our cattle and sheep men by the improvement of range conditions, the elimination of poisonous waters and weeds, and the control of disease, it is evident that the possible improvements which can be brought about by the College can increase the value of our farm products by at least twenty-five million dollars.**

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## THE SIXTH ANNUAL FARMERS AND HOME MAKERS' WEEK

Arrangements have been completed for the sixth annual Farmers and Home Makers' Week to be held at State College January 8 to 13, 1917, and the programs are published on pages five to seven of this issue of the "Courier." In addition to the members of the College faculty who will take part on the program the services of ten or twelve lecturers and demonstrators from outside the State have been secured. The latter include the following:—

W. L. Carlyle, Dean of Agriculture and Director of the Oklahoma Agricultural Experiment Station . Dean Carlyle received his training at the Ontario Agricultural College in Canada, and has devoted the greater part of his life to different phases of the livestock industry. Prior to going to Oklahoma he was, for two years, acting president of the University of Idaho. He also spent many years connected with the animal husbandry departments of the Universities of Minnesota and Wisconsin, and the Colorado Agricultural College. Since 1900, Professor Carlyle has judged livestock at the leading State and National livestock shows. He is unusually well informed on Western livestock conditions.

Mrs. Nellie Kedzie Jones was formerly dean of women at the Kansas State Agricultural College, and then, for several years, had charge of the Home Economics Department of the University of Wisconsin. She is considered as an authority on home economics subjects and during the past few years has delivered lectures in practically all the Western states. Mrs. Jones was reared on a farm, and knows how to meet and reach farm women.

Capt. Thomas Franklin, Manager of the El Paso Dairy, has again consented to deliver several lectures during the week; and those who attended the, short course last year will remember the talks he gave as being among the very best that were had. Captain Franklin is well qualified along dairy lines, both from the scientific and practical sides.

Other outside speakers are Mr. R. A. Hart, U. S. Drainage Engineer in Charge of Western Drainage Investigations; and Dr. J. E. Gibson, a United States Veterinary of large experience in hog cholera and other veterinary work.

# Program of Farmers and Home Makers' Week.

**State College, N. M., January 8 to 13, 1917.**

### Monday Forenoon, January 8.

Registration

Address, President George E. Ladd

Extension Service, Director A. C. Cooley

Announcements

### Monday Afternoon.

How to Build up a Profitable Flock of Poultry, (demonstration in selecting layers and caponizing), Mr. R. B. Thompson, Assistant Poultryman.

Preparation of the Seed Bed and Cultivation of the Corn Crop, Prof. R. L. Stewart, Agronomist.

The Care of Farm Motors, Prof. A. F. Barnes, Dean of Engineering.

### Tuesday Forenoon.

The Practical Side of Chemistry. Some Things a Farmer Should Know, Dr. L. A. Higley, Chemist.

Crop Rotation for the Dry Farmers of the Southwest, H. M. Bainer, Agricultural and Industrial Agent, Santa Fe Ry. System.

Drainage Problems and Their Solution, R. A. Hart, U. S. Drainage Engineer in Charge of Western Drainage Investigations.

### Tuesday Afternoon.

Truck Crops for the Commercial Market, Director Fabian Garcia.

Spraying Methods and Materials (Demonstration), Prof. D. E. Merrill, Station Biologist, and J. W. Rigney, Assistant Horticulturist.

### Wednesday Forenoon.

Socializing Rural Life, Rev. T. L. Lallance, Las Cruces, N. M.

Drainage Districts and How to Perfect Them, R. A. Hart.

Care and Improvement of Livestock on the Farm, W. L. Carlyle, Dean and Director, Oklahoma Agricultural College.

### Wednesday Afternoon.

Soil Tillage, Cultivation and Moisture, R. S. Trumbull, Agricultural Agent, El Paso & Southwestern Ry.

The Range Cow and Her Future, Dean W. L. Carlyle.

Fattening Beef Cattle (Demonstration), Dean W. L. Carlyle.

### Wednesday Evening.

Getting Acquainted Social.

### Thursday Forenoon.

Feeding Western Sheep and Lambs, Dean W. L. Carlyle.

Address, Mrs. Kedzie Jones, Auburndale, Wis., former Director of Home Economics, University of Wisconsin.

Farm Accounting, W. L. Elser, State Leader in Farm Management.

### Thursday Afternoon.

Raising and Feeding Hogs for Market, Dean W. L. Carlyle.

Hog Judging Demonstration, Dean W. L. Carlyle.

Swine Diseases and Their Control, Dr. J. E. Gibson, U. S. Veterinarian.

### Thursday Evening.

Address, Mrs. Kedzie Jones.

### Friday Forenoon.

How the Farm Loan Act Will Benefit the Farmers, Prof. J. H. Vaughan.

Farm Sanitation, Dr. J. E. Gibson .

Dairying for Profit, Capt. Thomas Franklin, Manager, El Paso Dairy.

### Friday Afternoon.

Contagious Abortion, Dr. J. E. Gibson.

Selecting the Dairy Cow, Capt. Thomas Franklin.

Dairy Cow Judging Demonstration, Capt. Thomas Franklin.

### Saturday Forenoon.

Results of Range Steer Feeding at the Tucumcari Dry-Land Station, Prof. Luther Foster.

Market Milk, Capt. Thomas Franklin.

Raising Sugar Beets in the Southwest, Phil Erickson, Agriculturist, Holly Sugar Company.

**Saturday Afternoon.**

Milk and Cream Testing Demonstration, Butter Making on the Farm, Professors Latta and Meeks.

Demonstration and lecture. Table Service and Table Etiquette, Miss Pearl C. Miller, Professor of Household Economics.

3:30-4:30

Lecture. Importance of a Clean Home, Mrs. Nellie Kedzie Jones.

**Wednesday Morning, January 10.**

9:30-10:30

Demonstration. Some Ways of Making Dish Washing Easier, Miss Gail Richie, State Demonstrator in Home Economics.

10:30-12:00

Demonstration. Cookery for Invalids, Mrs. Nellie Kedzie Jones.

**Wednesday afternoon.**

2:00-2:45

Libraries for Farm Folks, Miss Floy French, Librarian.

2:45-3:30

Helps in Home Millinery, Miss Helen I. Thissell, Instructor in Household Economics.

HOG CHOLERA DIAGNOSIS DEMONSTRATION
Conducted during the 1916 Farmers' Week at State College, N. M.

## HOME MAKERS' CONFERENCE PROGRAM.

**Monday afternoon, January 8.**

2:00

Principles of Nutrition and Selection of Food, Mrs. Nellie Kedzie Jones.

**Tuesday Morning, January 9.**

9:30-10:30

Demonstration. Baking Powder Mixtures, Miss Mildred Fulghum.

11:00-12:00

The Selection of Cooking Utensils, Mrs. Nellie Kedzie Jones.

**Tuesday afternoon.**

2:00-3:30

3:30-4:30

Lecture. Dividing the Dollar, Mrs. Nellie Kedzie Jones.

**Thursday Morning, January 11.**

9:30-11:00

Demonstration. The Principles of Egg Cookery, Miss Lureen Hulbert.

11:00-12:00

Demonstration. The Use of the Dress Form, Miss Carrie Reames.

**Thursday afternoon.**

2:00-3:30

Demonstration. Pies and Puddings, Mrs. Nellie Kedzie Jones.

3:30-4:15

The Growing of Roses, Mr. G. A. Martin, El Paso, Texas.

4:15-5:00

The Growing of Dahlias, Mr. John L. Dyer, El Paso, Texas.

**Friday morning, January 12.**

9:30-12:00

Demonstration. Fancy Breads, Mrs. Nellie Kedzie Jones.

**Friday afternoon.**

2:00-3:30

Demonstration. Selection, Killing and Dressing of Poultry for Table Use, Mr. R. B. Thompson, Assistant Poultryman.

3:30-5:00

Demonstration. Some Meat Substitutes, Mrs. Nellie Kedzie Jones.

**Saturday morning, January 13.**

9:30-11:30

Meat Cutting Demonstration.

11:30-12:00

Round Table.

In addition to the above, one evening Mrs. Kedzie Jones will deliver a lecture entitled "The Girl Who Can."

The Extension Division has devoted considerable time and expense to the arranging of the above programs and securing competent speakers to discuss the respective subjects, with the sole object of imparting valuable information to the farmers and home makers of New Mexico, and we sincerely hope that they will take advantage of the opportunity that is now given them to attend the Farmers and Home Makers' Week at their Agricultural College.

No charges will be made for attending the various lectures and demonstrations, and a rate of one and one-third fare for the round trip will be secured from the railroads, provided at least fifty purchase tickets and take receipts for the amounts paid therefor. Also, arrangements are being made with the hotels for reduced rates for those attending the short course.

For further information, address the Extension Division, New Mexico College of Agriculture and Mechanic Arts, State College, N. M.

## HOME-CURED MEAT

### How to Preserve Beef and Pork on the Farm—Satisfactory Method for General Use.

Curing meats with brine is a good method for farm use. It is less trouble to pack the meat in a barrel and pour brine over it than to go over it three or four times and rub in salt, as in the dry-curing method. The brine also protects the meat from insects and vermin. Brine made of pure water and according to the directions in the following recipes should keep a reasonable length of time. During warm weather, however, brine should be watched closely, and if it becomes "ropy," like sirup, it should be boiled or new brine made. A cool, moist cellar is the best place for brine curing.

Pure water, salt, sugar or molasses, and saltpeter, are all the ingredients needed for the ordinary curing of meat. The meat may be packed in large earthen jars or a clean hardwood barrel. The barrel or jar may be used repeatedly unless meat has spoiled in it. It should be scalded thoroughly, however, each time before fresh meat is packed.

Curing should begin as soon as the meat is cooled, and while it is still fresh. Ordinarily 24 to 36 hours after slaughter are sufficient for cooling. Frozen meat should not be salted, as the frost prevents proper penetration of the salt and uneven curing results.

### Recipes for Curing.

Corned Beef.—The pieces commonly used for corning are the plate, rump, cross ribs, and brisket, or in other words, the cheaper cuts of meat. The loin, ribs, and other fancy cuts are more often used fresh. The pieces for corning should be cut into convenient-sized joints, say, 5 or 6 inches square. It should be the aim to cut them all about the same thickness so that they will make an even layer in the barrel.

Meat from fat animals makes choicer corned beef than that from poor animals. When the meat is cooled thoroughly it should be corned as soon as possible, as any decay in the meat is likely to spoil the brine during the corning process. Under no circumstances should the meat be brined while it is frozen. Weigh out the meat and allow 8 pounds of salt to each 100 pounds; sprinkle a layer of salt one-quarter of an inch in depth over the bottom of the barrel ;pack in as closely as possible the cuts of meat, making a layer 5 or 6 inches in thickness; then put on a layer of salt, following that with another layer of meat; repeat until the meat and salt have all been packed in the barrel, care being used to reserve salt enough for a good layer over the top. After the package has stood overnight add for every 100 pounds of meat, 4 pounds of sugar, and 4 ounces of salteter dissolved in a gallon of tepid water. Three gallons more of water should be sufficient to cover this quantity. In case more or less than 100 pounds of meat is to be corned, make the brine in the proportion given. A loose board cover, weighted down with a heavy stone or piece of iron, should be put on the meat to keep all of it under the brine. In case any should project, rust would start and the brine would spoil in a short time.

It is not necessary to boil the brine except in warm weather. If the meat has been corned during the winter and must be kept into the summer season, it would be well to watch the brine closely during the spring, as it is more likely to spoil at that time than at any other season. If the brine appears to be ropy or does not drip freely from the finger when immersed and lifted it should be turned off and new brine added after carefully washing the meat. The sugar or molasses in the brine has a tendency to ferment, and, unless the brine is kept in a cool place, there is sometimes trouble from this source. The meat should be kept in the brine 28 to 40 days to secure thorough corning.

Dried Beef.—The round commonly is used for dried beef, the inside of the thigh being considered the choicest piece, as it is slightly more tender than the outside of the round. The round should be cut lengthwise of the grain of the meat in preparing for dried beef, so that the muscle fibers may be cut crosswise when the dried beef is sliced for table use. A tight jar or cask is necessary for curing. The process is as follows: To each 100 pounds of meat weigh out 5 pounds of salt, 3 pounds of granulated sugar, and 2 ounces of saltpeter; mix thoroughly together. Rub the meat on all surfaces with a third of the mixture and pack it in the jar as tightly as possible. Allow it to remain three days, when it should be removed and rubbed again with another third of the mixture. In repacking, put at the bottom the pieces that were on top the first time. Let stand for three days ,when they should be removed and rubbed with the remaining third of the mixture and allowed to stand for three days more. The meat is then ready to be removed from the pickle. The liquid forming in the jars should not be removed, but the meat should be repacked in the liquid each time . After being removed from the pickle the meat should be smoked and hung in a dry attic or near the kitchen fire where the water will evaporate from it. It may be used at any time after smoking, although the longer it hangs in the dry atmosphere the drier it will get. The drier the climate in general, the more easily meats can be dried. In arid regions good dried meat can be made by exposing it fresh to the air, with protection from flies.

Plain Salt Pork.—Rub each piece of meat with fine common salt and pack closely in a barrel . Let stand overnight. The next day weigh out 10 pounds of salt and 2 ounces of saltpeter to each 100 pounds of meat and dissolve in 4 gallons of boiling water. Pour this brine over the meat when cold, cover and weight down to keep it under the brine. Meat will pack best if cut into pieces about 6 inches square . The pork should be kept in the brine till used.

Sugar Cured Hams and Bacon.—When the meat is cooled, rub each piece with salt and allow it to drain overnight. Then pack it in a barrel with the hams and shoulders in the bottom, using the strips of bacon to fill in between or to put on top. Weigh out for each 100 pounds of meat 8 pounds of salt, 2 pounds of brown sugar, and 2 ounces of saltpeter. Dissolve all in 4 gallons of water, and cover the meat with the brine. For summer use it will be safest to boil the brine before using. In that case it should be cooled thoroughly before it is used. For winter curing it is not necessary to boil the brine. Bacon strips should remain in this brine four to six weeks; hams six to eight weeks. This is a standard recipe and has given the best of satisfaction. Hams and bacon cured in the spring will keep right through the summer after they are smoked. The meat will be sweet and palatable if smoked properly, and the flavor will be good.—Weekly News-Letter, U. S. Department of Agriculture.

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## CORN EAR-WORM, COTTON BOLL-WORM OR TOMATO FRUIT-WORM.

### Description.

The caterpillar commonly known by the above names is the larva of a moth about 3-4 inch long and 1 1-2 inches expanse of wings. The moths vary in color from dull olive green to yellowish-white. As a rule the wings are bordered with dark bands and the wing veins are black. The caterpillars also vary in color from light green through rose color and brown to almost black, and are either spotted, striped or perfectly plain. One may think a half dozen different species of "worms" are present in tomatoes and cotton, especially, when they are merely color variations of the same species.

### Life History.

In the southern part of our state, where most damage seems to be done by this insect, the spring moths appear about the middle of May. Going north they appear later until in the northern part of the state they may not come out until nearly mid-June.

The yellowish eggs of the first

brood are laid by the females upon corn, peas, beans or what food may be available and hatch in less than a week . The list of feeding plants for this generation is long. A noticeable damage by these first caterpillars is done by feeding in the axils of the leaves of young corn. When the leaves unfold they have rows of holes across them.

From 2 to 3 weeks is required to complete growth of the caterpillar to a length of about 1 1-2 inches. Then the caterpillar crawls to near the base of the plant and burrows from 2 to 5 inches into the soil, constructing an underground cell with a tunnel slanting up to very near the surface. Then the larva changes to the pupa, a reddish-brown oval body 4-5 inch long. Some two weeks later the moths emerge, exit being made easy along the tunnel.

Thus it takes about 6 or 7 weeks, near July 1st in the southern part of our State, for the bringing out of the second generation of moths. These moths then lay their eggs as a rule upon corn, cotton, or tomatoes that may be available, the larva feeding upon the ear, boll and fruit. Only about 30 days are necessary for maturing this generation. So, early in August, the third brood of moths is out to lay eggs again on corn, cotton, or tomatoes, to produce larvae again. In the northern part of the state, surely, and probably in the southern part, this brood of caterpillars is the last of the season and when full grown crawl into the ground, pupate, and remain over winter in the cells constructed. There may be a partial fourth generation in the far southern part of the State, but the life history has not been worked out in detail.

### Feeding Habits.

As mentioned above, the first generation of caterpillars feed on many plants. The damage done by the second and third is more localized. On corn the eggs are laid on the young silks, the larvae crawling in to the kernels and feeding there, not only destroying part of the ear, but allowing molds to enter to do still more damage. Apparently the larvae are cannibals, which accounts for the presence of only one larva in one ear as a rule. The damage done to sweet corn and field corn amounts to over $50,000,000 a year!

On tomatoes the eggs are laid on twigs and fruits and the larvae bore into the fruits near stem-end to feed. Several tomatoes may be "sampled" by one larva as it grows, the wounds, if shallow, often healing after a fashion in green tomatoes. When nearly grown it bores more deeply and usually selects a ripe tomato, so the damage is usually much greater. A tomato so injured rots quickly. Nearly all the damage to tomatoes is done by this caterpillar.

On cotton the eggs are laid on the leaves and bolls. The damage is done by the larvae boring into the bolls, killing the young bolls at once and causing mature bolls to decay. Occasionally the flowers are attacked by this caterpillar . In bad infestations large plants may have every boll killed. The total damage to cotton from this insect is estimated at upwards of $20,000,000 a year. Our cotton growing district contributes its full share.

### Control.—Preventive.

### Cultural Methods.

The insect passes the winter as the inactive pupa 2 to 5 inches below ground, with the tunnel running near the surface. Therefore, the easiest, most satisfactory, and most practical method of control is to plow land for the above crops, late in fall or in winter. Plow deeply and harrow well.

This breaks up the pupal cells and exposes and kills the hibernating insects, and the birds get the rest.

The long list of food plants of the first generation makes it necessary to kill as many pupae as possible before these moths emerge. Otherwise the young caterpillars will more easily live to increase for the second generation.

Cultivation of the ground in summer after the summer caterpillars have gone into the ground to pupate,—middle to last of June, and last of July to first of August—performs a similar service.

### Rotation of Crops.

Allowing corn, cotton and tomatoes to follow themselves or each other on the same ground increases the liability to attack . Rotate the ground to a crop not attacked by this insect. Emerging spring moths will have more difficulty in finding food plants and many will die before laying eggs.

### Time of Planting.

The earliest corn and cotton are attacked less as a rule. So early varieties should be sought and cultivated Early cotton is freer from almost all of the cotton insects than is late cotton .

With corn it is possible to time planting so the corn will not be in young silk at egg laying times of the summer months— roughly, near July 1st and near August 1st. The eggs are rarely deposited on dead silks. Observation by the farmer in each locality will enable him to tell when to plant for best results along this line.

### Trap Crops.

These moths prefer young corn silks to anything else for a place to deposit eggs. For this reason a row of corn planted here and there thru cotton and tomato patches may be used to trap the caterpillars. Plant the rows at time such that some will have silk in condition to attract the moths for each of the summer broods—near July 1st and August 1st. The eggs will be laid on these silks and the caterpillars will enter the ears. Then cut the infested corn after each brood and feed it at once, thus removing the caterpillars. Do not allow the corn to stand, for then it acts merely as an incubator for insects that will later attack the other crops.

**Never plant corn and cotton together for true crops.**

### Control.—Remedial.

The young caterpillars on hatching nibble at the foliage and silks before finding the real feeding place. Much good may be done on cotton and tomatoes by using arsenate of lead as a **dust** at the **right time—namely, when the moths are laying eggs—July** 1st to August 1st. It will thus poison many small larvae when they take their first bite. Without rains the dust remains effective 2 to 3 weeks. Apply undiluted or diluted 1 to 4 with flour or powdered lime, using a dusting machine or shaking it on from a rather coarse mesh sack. About 6 to 8 pounds of the lead per acre are sufficient.

On small patches of sweet corn or field corn the ears may be protected by sifting a teaspoonful of the arsenate of lead into the silk of each ear **before the young hatch.** This is not practicable in large fields.

Young corn may be protected in great measure from the first brood of caterpillars by dusting as above before the young hatch.

### Natural Enemies.

Natural insect enemies and disease kill many caterpillars of last brood, fortunately, but they cannot be relied upon entirely to control this pest.

N. B.—Use the **preventive methods** always. Do not rely on **remedies.**

The preventive methods are good farming methods, too.

D. E. MERRILL.
Biologist.

### A WORD OF COMMENDATION.

We commend each faithful Club member for his "stick-to-it-iveness," and we congratulate each one who has succeeded in winning a premium. For faithfulness and achievement we will award a 4-H Club Pin to every Club member completing a Club project.

It would please the State Club Leader to know just how many of the 1916 Club members really desire and expect to work out a Club project next year. A postal card or a letter from the interested boys and girls will tell us. May we hear from our Club members, naming their choice of Club projects for 1917?

We wish also, to commend the Local Leaders—the unpaid, unselfish men and women who have labored solely for the good of the Club members. These Local Leaders are real community builders and every locality is to be congratulated on having these public-spirited workers. The State Leaders frankly admit that a very large measure of the success in Club Work for 1916 is due to the interest and help of the Local Leaders throughout the State. We thank you, Local Leaders, for your hearty cooperation. May we have your suggestions how to better the Club Work?

The Grand Champion in the Club Work has been chosen from the State Champions in each Club Project. He will receive a solid gold medal for the achievement. This medal will be awarded by Mr. L. C. Mersfelder, State Director of Industrial Education.

A 4-H Club Pin will be awarded to every Club member in the State who has worked out a Club project and made a satisfactory final report. All reports must be in before these awards are made.

# Department of Animal Husbandry

### NEW STATE RECORDS FOR DAIRY COWS.

New Mexico is fast showing that here a dairy cow can be developed to her best. The State records for seven days and a year's production, both of milk and butterfat, have been broken recently. The honor of all of these new records goes to two Roswell breeders, Dr. A. D. Crile and Mr. Meldrum Gray; who have splendid herds of registered Holsteins and Jerseys, respectively.

The seven-day record for butterfat has been twice broken within a month. The present holder is Dr. Crile's five-year-old Holstein cow, Arcady Segis Barbara, 187728. This remarkable cow averaged ten gallons of milk daily, the official figures being 599.2 pounds of milk, testing 3.74 per cent, and containing 22.43 pounds of butterfat. This would make nearly four pounds of butter per day. Only three weeks previous the record, which had stood at 16.89 pounds butterfat, held by another of Dr. Crile's cows, Aaggie Teehee Beets, had been broken by Mr. Gray's Jersey cow, Rochette's Princess, producing 18.97 pounds of butterfat in seven days.

The new year's butterfat record was recently completed by the last cow mentioned above. Mr. Meldrum

Gray's six-year-old, Rochette's Princess 253833. She finished a year's authenticated test in August with the remarkable record of 13,937.4 pounds of milk, testing 5.12 per cent, and containing 713.9 pounds of butterfat. This would make 870 pounds of commercial butter. This cow has given 57.8 pounds of milk in one day; approximately seven gallons of rich Jersey milk.

The year's record for butterfat was previously held by the Agricultural College's Guernsey cow Viola Birthright, at 592.8 pounds. The milk record had been held by another of the College's cows, the Holstein, Mosella Lyons of Riverside, at 13,280 pounds of milk in one year. Since Rochette's Princess finished her year's test, another of Mr. Gray's Jerseys has surpassed her stable mate, and set another new milk record, 13,966 pounds in 365 days. This cow is the seven-year-old Jersey, Lady Rosette of H. S. F. 344363. Her butterfat record did not quite equal Rochette's Princess, but she finished with 681 pounds butterfat, which puts her in the 800-pound butter class.

Both Dr. Crile and Mr. Gray are having every cow in their herds officially tested and their cows have always qualified for the Advanced Registry, with very cerditable records. These tests have been conducted by Mr. M. R. Olp under the supervision of the State Dairy Agent at the Agricultural College.

A picture of the new butterfat champions, together with their owners, was published on the cover of the July "Courier."

R. W .LATTA,
State Agent in Dairying, U. S. D. A.

# The Home Department

Edited by GAIL RICHIE, State Demonstrator in Home Economics.

## INVALID COOKERY.

Every one who has passed through an illness realizes the importance of diet in disease. Our bodies are composed of certain elements and these elements should be contained in our foods, to repair the worn out tissues and to keep our systems in perfect running order. It is necessary to know what these elements are and what foods contain them . Some of the foods that contain the element nitrogen, which is the essential element for building tissue, are milk. eggs, meat, fish, cheese, and peanuts. These foods are valuable in wasting diseases, as tuberculosis. Foods containing the elements carbon, hydrogen, and oxygen undergo combustion in the body, yielding the heat that produces energy or strength. Our bodies utilize foods in somewhat the same way that the engine does its fuel. The fuel is burned, producing heat, and this in turn propels the engine. Foods valuable as heat producers are the cereals, potatoes, bread, the fats and sugars. The vegetable foods are valuable for their mineral content, and fruits principally for their dietetic value as stimulants to the appetite and by adding variety to the diet.

There are four diets in invalid cookery: the liquid diet, the semi-solid diet, the light diet, and regular or full diet. The liquid diet includes beef tea, beef juice, chicken broth, mutton broth, ice cream, water ices, cocoa, and milk. Semi-solid foods are gruels, custards, egg nogs, blanc mange ,and soft cooked eggs . The light diet includes toasts, fish, poultry and fruits, and the regular or full diet includes all foods that are not difficult to digest; not pork, boiled cabbage, highly seasoned foods and pastries.

The preparation and serving of these foods is of the utmost importance. One should appeal to the sense of sight, the sense of taste, consider the temperature, digestibility and nutritive value. Attractive serving tempts and stimulates the appetite. The very best linen should be used, the daintiest and prettiest china and the patient's favorite flower may be placed on the tray. Have everything clean and sparkling. Serve the foods in small quantities and hot or cold, as the case may be. Invalids prefer foods seasoned with salt to those to which sugar has been added. When the patient is made comfortable, the nurse should be occupied about the room, that the patient may eat at her leisure.

PEARL C. MILLER.

## THE SANITARY DRINKING CUP.

There is a parody on "The Old Oaken Bucket" entitled "That Long-handled Dipper that Hung by the Sink." In many homes a "long-handled dipper" or a tin cup still hangs by the pump or the faucet to be used in turn by every member of the family, the man servant, the maid servant, and the stranger that is within the gates. In many schools the custom is retained of bringing water in an open pail from a near-by well. One dipper is hung above this pail and the two or three dozen children drink from this dipper in quenching their thirst. Germs not able to grow in healthy bodies may be left on the rim of the dipper to gain entrance into the system of a more delicate child.

Tuberculosis, tonsilitis, grippe, ordinary colds and many other diseases are often spread by means of the drinking cup.

The individual drinking cup is just as important as the individual spoon and knife, towel, comb, and tooth brush. Children should be provided with individual cups, even if they are nothing more than empty baking powder cans. Following are directions for making a sanitary drinking cup from a piece of clean paper:

Take a piece of paper 7 inches square. Fold diagonally, making a triangle. Fold one folded corner so that the point will come midway between the remaining two corners. Treat the other corner likewise. Insert one unfolded corner in the double fold thus formed, and fold the remaining one back.

In this way every child can have a clean cup every time he takes a drink.

## HOME-MADE POLISH FOR AUTO

For furniture or automobile bodies an excellent polish can be made by thinning down boiled linseed oil with turpentine . This should be applied sparingly to the clean surface with a cloth and should be rubbed briskly with a soft dry cloth or cotton waste. It is best not to use body polish on a car until the gloss has become dull.

Another polish recommended by automobile experts is made from 1 gallon of turpentine, 3 1-2 ounces of citronella oil, 1 pint of paraffine oil or light cylinder oil and 1 1-2 ounces of oil of cedar . When the finish on a car has become very dull the appearance can be greatly improved by rubbing with a mixture of cylinder oil and kerosene.—From "News Letter," Ohio State University.

# Boys' and Girls' Club Work

W. T. CONWAY, State Club Leader

The following story was written by the winner, for 1916, of the first prize in the A class of the Girls' Sewing Clubs:—

### THE GIRLS' SEWING CLUB.

By Flora Richards

I began my work on April 27, 1916. First, I made a patch; second, a table runner; third, a night gown; fourth, a petticoat; fifth, a middy blouse. The Club met every day during the week.

I used cotton gingham for my patch; linen which is made from flax, for my table runner; muslin for my night gown and petticoat, and galatea for my middy blouse.

Texas produces more cotton than and other State. Russia produces the most flax from which linen in made. Linen is used for many things. Cotton is also very useful to all people.

I cut the things that I have made myself; I was only shown how the patterns were laid and how it should be put together.

The materials were selected for durability and usefulness.

We, the ten members of the Girls' Sewing Club, are going to help to pay for our goods by serving ice cream and wafers to the school on Saturday night. We hope to make more than ten dollars, and are going to charge ten cents a dish.

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The following State exhibitors in field crops made the grades opposite their names and are entitled to premiums from the State Fair:—

### In Corn Club.

| | Grade | Premium |
|---|---|---|
| Robert Strickland, Roswell | 95 | $10.00 |
| Albert Bamert, Las Cruces | 75 | 6.00 |
| Baxter Ally, Texico, R. D. 3 | 73 | 2.00 |
| Louis Alvarez, Mesilla .... | 71 | 1.00 |
| Narciso Bernal, Mesilla.... | 70 | 1.00 |
| Fidencio Griego, Las Vegas | 59 | 1.00 |
| Nola Butler, Moriarty..... | 59 | 1.00 |
| Geo. Lancaster, Maxwell... | 57 | 1.00 |

### In Kafir Club.

| | Grade | Premium |
|---|---|---|
| Buford Curry, Texico, R. D. No. 3 ................ | 98 | 10.00 |
| Paul Ally, Clovis.......... | 86 | 6.00 |
| Ellis Rogers, Texico, R. D. 2 ...................... | 79 | 2.00 |
| Jack Barrett, Deming...... | 70 | 1.00 |

### Milo Maize Club.

| | Grade | Premium |
|---|---|---|
| Harry Hungate, Texico, R. D 2 .................... | 95 | 10.00 |
| Jack Barrett, Deming...... | 81 | 6.00 |
| Clarence Kirby, Texico, R. D. 2 .................... | 79 | 2.00 |

### Bean Club.

| | Grade | Premium |
|---|---|---|
| Pedro Crespin, Trujillo.... | 81 | 7.00 |
| Walter Hoyland, Mountainair ..................... | 80 | 4.00 |
| Luther Vanderford, McIntosh .................. | 79.5 | 1.00 |
| Bera Butler, Moriarty..... | 79 | .50 |
| Willie Clark, Estancia..... | 78 | .50 |
| Roy de Vaney, Progresso.. | 75 | .50 |
| Harold Johnson, Estancia.. | 74 | .50 |
| Conchita Vigil, Moriarty... | 65 | .50 |
| Henry Turner, E. Las Vegas .................... | 65 | .50 |
| Walter Merrifield, Estancia | 62 | .50 |
| Oral Hallon, Mountainair.. | 61 | .50 |

### Potato Club.

| | Grade | Premium |
|---|---|---|
| John Simmons, Yankee.... | 88.8 | 7.00 |

| | | |
|---|---|---|
| Mirl Piper, Yankee | 88.3 | 4.00 |
| Chester Shockey, Moriarty | 75 | 1.00 |

### Specials.

| | |
|---|---|
| Harry Conway, State College, Wheat Special | 5.00 |
| Tom Cooke, Texico, R. D. No. 3 Broom Corn Special | 2.50 |
| Amadro Montoya, Sapello, Peas Special | 2.00 |
| Ernesto Stines, Rociada, Peas Special | 1.00 |

### Garden and Canning.

| | Grade | Premium |
|---|---|---|
| Russell Jenkins, Raton | 90 | 10.00 |
| Eva Talley, Albuquerque | 80 | 6.00 |
| Paul Foss, Magdalena | 70 | 2.00 |

This completes the State Club Contest for 1916. It will be noticed by any one referring to the premium list that a large number of Club members failed to avail themselves of the premiums offered by the State Fair. If more members had entered the State Contest, they would have received premiums.

The Club reports show that many of the members who did not compete in the State Contest made larger profits on their Club projects than those who did compete. Thus they lost the opportunity of being the State Champions.

## STATE CHAMPIONSHIP.

### Basis of Award.

| | |
|---|---|
| Highest per cent net profit | 40 |
| Highest score on exhibt | 30 |
| Highest grade on record and story | 30 |
| | 100 |

In order to compete for the State Championship, the club member must stand first in his club project in the State Contest. Out of fourteen who stood the highest, we have selected eight whose grades on the above Basis of Award are as follows:

| | |
|---|---|
| Robert Strickland, Roswell—Corn Grade | 95 |
| Russell Jenkins, Raton—Garden & Canning, Grade | 79 |
| Flora Richards, Albuquerque—Sewing, Grade | 77 |
| John Simmons, Yankee—Potatoes Grade | 76 |
| Lolita Hernandez, Bernalillo—Cooking, Grade | 70 |
| Pedro Crespin, Trujillo—Beans Grade | 69 |
| John Henderson, Lake Arthur—Pig, Grade | 68 |
| Cora Van den Bout, Dexter—Chickens, Grade | 63 |

Thus it will be seen that the gold medal, offered by Mr. L. C. Mersfelder, State Director of Industrial Education, goes to Master Robert Strickland of Roswell, N. M.

Robert had a half acre of corn which made 50 bushels, at a cost of about ten cents per bushel. His exhibit scored 91 and his record and story graded 85. It was the low cost of production which gave him the lead over his competitors. There were others who made more money than Robert did, but at a greater outlay.

Robert also raised a splendid Poland China pig which brought him several premiums at the State Fair. He is now attending high school in Roswell, making good use of his time and money.

Other club members can do as well.

### Reports.

Club reports are still coming in. It is very important that each and every club member send in his final report. If the report shows that the project has been completed according to instructions, the member will receive his reward,—a Club Pin.

The Club Pin is a very pretty emblem, full of meaning. It stands for the education of head, heart, hand and health. Every Club boy and girl should be proud of the Club pin and the achievement for which it stands.

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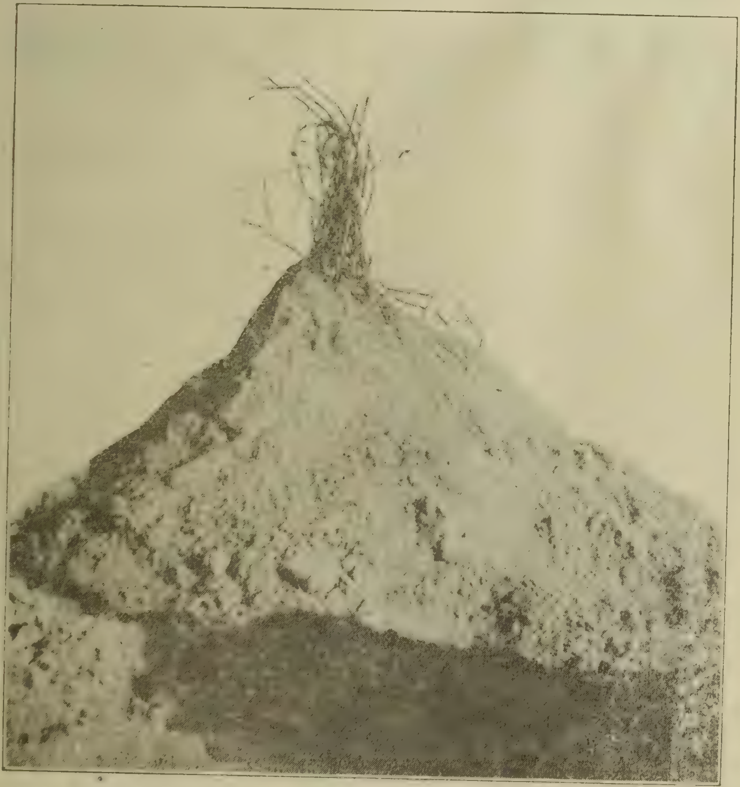
# THE NEW MEXICO FARM COURIER

VOL. V. JANUARY, 1917 NO. 2



A Vinifera ("California") Grape Vine in southern New Mexico, protected for the winter. Such protection, by hilling up the earth around the vine, increases the yield very materially.

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In Cooperation with the U. S. Department of Agriculture.

# THE NEW MEXICO FARM COURIER

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## TOO MUCH WATER ON LAND REDUCES ITS PRODUCTIVENESS.

The following paper, by John C. Wheelon, Chief Engineer of the Utah-Idaho Sugar Company, of Garland, Utah, was read at the International Irrigation Congress at El Paso, and a $50 prize cup awarded for the same:—

### The Duty of Water.

"'Duty of water' is a phrase that has been used by engineers and others during the past 30 years to express the relationship existing between a given quantity of water and the area of land that it is made to serve. The duty of water is said to be high or low depending upon whether or not a given quantity of water serves a large or a comparatively small area.

"Little or nothing was known as to the amount of water required for irrigation purposes at the time of the first settlements in the valleys of the Rocky Mountain regions. Water and land were both plentiful, and in order to be sure of a sufficient amount, many of the early settlers filed upon unreasonably large amounts of water. Some gained a title to enough water to cover their land from six to ten feet in depth during each irrigation season.

### Value of Water Rises.

"As the population increased and more water was filed upon, some of the streams became over-appropriated. There was still plenty of land, but the water was limited, and its value rose rapidly because of the increased demand for it.

"There has always been considerable difference of opinion, however, as to how much water is actually required for the different soils, as between the heavy clay and the sandy soils. The courts have adjudicated the entire water supply of the whole streams, only to find that in the course of time a readjudication could and should be made in view of the increase from year to year in the duty of water.

"Canal companies have constructed large projects and have provided in the contracts with their patrons that a certain quantity of water per acre shall be delivered from the canal system perpetually each season, only to find that in a few years the duty of water has increased by skilful operation and other, and natural causes, to such an extent that the terms of the contract in this respect are often mutually abandoned.

### The Natural Law.

"We are just at this time beginning to learn that there is a positive and reliable source of testimony upon this subject in the natural law which governs the transpiration of moisture through the stems and leaves of plants, or in other words, the travel of water from the soil through the roots, stems and leaves of plants in the process of its evaporation therefrom into the air, and, moreover,this natural law is so absolute that it applies to nearly all classes of soil, and so nearly the same in all conditions of climate that it can be relied upon for all practical purposes. For instance, we have learned that the duty of water for a 50 bushel wheat crop is about 15 acre inches of water to the acre of crop. That is to say, a crop of wheat that yields 50 bushels per acre, can pass through its roots, stems and leaves into the air, during its entire growing and maturing season, 1500 tons of water per acre, or an amount of water that will cover each acre of ground 15 inches deep; (an acre inch of water is an acre of water one inch deep and weighs a little more than 100 tons).

### Amount Different Crops Use

"A 70 bushel crop of barley can use 15 acre inches.

"A 100 bushel crop of oats can use 15 acre inches.

"A 100 bushel crop of corn can use 17 acre inches.

"A 300 bushel crop of potatoes can use 8 1-4 acre inches.

"A four ton crop of alfalfa can use 16 acre inches.

"And yet, I have heard farmers testify in court in the honest effort to protect their own interests that their success depended on a water duty of from 60 to 80 acres to the second foot flow.

### Duty of the Acres.

"Now that we have learned just what an acre inch of water means in depth and weight, as well as its relation to the production of crops, let us see just what the above expressions mean in acre inches. A duty of 60 acres to the second foot flow means that during the ordinary irrigation season of six months, each acre shall be supplied with 60 acre inches, or about four times as much as the maximum yield of crops can utilize.

"A duty of 80 acres to the second foot flow means 52 acre inches.

"A duty of 100 acres to the second foot flow means 42 acre inches.

"A duty of 150 acres to the second foot flow means 29 acre inches, or practically twice as much as the maximum yield of crops can utilize.

### Not Deceiving Ourselves.

"We are not deceiving ourselves here; because we are seeing 40 bushels of wheat per acre taken from many of our mountain valleys every two years, when the total precipitation has averaged but 12 inches per year for 25 years. Assuming that one-half of this moisture exaporated direct from the soil surface during the non-growing season, we can understand that there were only 12 more acre inches available for this crop of 40 bushels per acre. Is it any wonder that the studious irrigator is astounded at this wanton waste of so valuable an element?

"There are two portions of our community that are deeply interested in this subject: the man who has more land than water, because he can use more water to advantage; the man who is using more water than his crops can use to advantage (for the reason that he has convinced the court or jury that he is entitled to it); because these excess waters are doing his land much more harm than good.

### Most Potent Element.

"Why more harm than good? Because of the fact that water is the most potent and important element in all of nature's great laboratory ,its great function is its ability to gather, to hold and to convey all kinds of soluble materials, good, bad and indifferent.

"Put water into the top of a barrel of wood ashes and catch the water from the bottom of the barrel, analyze the water and pour it into the barrel again, and when you catch and analyze the water the second time, you find that it carries more lye in solution than it did the first trip; it lost nothing, but gathered, held and conveyed more solids than before.

"Catch the waste waters from an irrigated farm in a catchment ditch, analyze them and drain them upon another equally fertile farm for use in irrigation; gather these waters again and analyze them and you will find that they have gathered more soil ingredients than they contained when leaving the other farm. We need not worry about the water the crops utilize, but we must watch the excess waters that leave our farm as we can be sure that they are carrying away plant foods that we cannot afford to spare.

### Rain Drop Gathers as It Goes.

"From the time the rain drop in its purity falls upon the mountain top and enters the soil it begins its functions and never ceases to gather, hold and convey until it reaches the river, the lake or the sea.

"Let us follow some of these waters as they are diverted to a farm for irrigation upon an acre of alfalfa upon which four tons of cured hay are to be grown. The thrifty farmer has built up his soil in the five principal plant foods: humus, nitrogen, phosphoric acid, potash and lime, in a well balanced plant ration. He has also provided his acre with a water right at a duty rate of 100 acres to the second foot flow, or 42 acre inches per season, or 4200 tons of water per acre.

"As soon as the water is applied to the land, the real duty of water in agriculture begins. It dissolves the plant foods; it supplies the moisture necessary to the fullest development of the soil organisms or bacteria; it assists the bacteria in the nitrification of these plant foods; and, after all the ingredients are reduced to the finest state called nitrates (which is the only condition suitable for plant use), the water holds it in solution and travels throughout the soil area and feeds all plants with this nectar of life.

### Another Function of Water.

"Right here another function in the duty of water begins in making its journey to the atmosphere. It starts at the terminals of each and every branch of the elaborate root systems of all the plants and begins the distribution of all the various substances that make up the structure of the plant and permits itself, entirely freed of its precious load of plant food, to pass into the air in the enormous quantity of 400 pounds to each one pound of dried grain or cured hay and straw. In this manner 1600 tons or 16 inches of water have done their duty and have performed every function that nature has required of them to the utmost economy.

### What of the Rest of It?

"But what of all the rest of the water we brought to this acre? We started with 4200 tons, or 42 acre inches per acre; it all fulfilled its office while in the soil and became laden with nitrates; the crops were able to give transportation to the air of 1600 tons of this water only. There are yet 2600 tons in this acre that must be disposed of, or it will fill the soil so full of water that no plants can grow. It tries to get away by passing down through the subsoil to some spring or stream. If that is not a sufficient outlet, the farmer spends his money and time in building a waste ditch to carry it away; always, of course, carrying in solution its valuable load of carefully prepared plant foods, and if this does not suffice, the land is perforated with tile drains to offer still further means of escape.

"Some 85 experiments and laboratory analyses have convinced the writer that the water passing from farm lands robs them of valuable plant foods. Eighteen experiments have shown that water from the tile drains carries, in many cases, as much as 30 pounds of humus, 1 9-10 pounds of nitrogen, 6 pounds of phosphoric acid and 20 pounds of potash per acre inch of water discharged. When we consider the values represented here we can see that no farm can afford to lose any of these vital elements.

"Careful measurement and analyses upon the writer's own tile drained farm in Box Elder County, Utah, shows that during two years some 10 acre inches of waste water passed out of this soil, or about 5 acre inches per year, and conveyed in the discharged waters during these two years 300 pounds of humus, 20 pounds of nitrogen, 40 pounds of phosphoric acid and 180 pounds of potash from each acre of ground.

### Cannot Afford the Leak.

"When we realize that all our arid lands are in their natural state deficient in humus and nitrogen, and that we are plowing under alfalfa and applying barn manure to build up these very elements and that a 70 bushel oat crop takes from the soil 67 pounds of nitrogen, any school boy can tell me that I cannot afford this leak in my business.

"I believe it is safe to assume that there are 50,000 acre feet of water that pass over or through the lands under the Bear River canal system in Box Elder County, Utah, that are denied the full duty of passing through the crops to the air, and are forced to join the surplus waters again every year, and that are laden with nitrogen enough to produce three-quarters of a million bushels of oats, or one-half million bushels of wheat, or 110,000 tons of sugar beets. Can we wonder that a noted soil chemist has asserted that a century of careless irrigation will exhaust out the best land on the continent?

### What the Farmer Should Learn.

"Right here, the irrigation farmer should learn the first and most important lesson in the practice of irrigation: To supplement the natural precipitation with enough applied water to mature a maximum crop and no more. His land is rich in plant foods and every inch of water wasted from his farm carries away these elements in solution.

"In conclusion it may be said that these losses may be avoided by serving to the land only as much water as the crops can utilize, and while the rain belt farmer drains his land and must submit to the excessive rainfalls that leach out his soil, the arid farm irrigator has the moisture conditions absolutely under his control and there is no good reason why his land should not be more fertile and productive in a century than when first reclaimed."

# Horticultural Department.

## PLANTING THE HOME GROUNDS.

Most people have often heard that "The future of the nation depends on the home training.". In fact, we have heard this so often that it fails to make the impression that it should and we are inclined to pay less attention to the arrangement of the home than we might. On the other hand, it is not necessary to study a scientific treatise on Landscape Gardening in order to make a few simple and effective improvements.

A house is not a home, but it is the outstanding feature of the home, so far as the landscape gardener is concerned. In planning, therefore, it should be kept in mind that the house is the central feature, and that anything else must occupy a secondary place. With this in mind, it is easy to realize that other things need to be so arranged that they will emphasize the beauty of the house. Two things are necessary to accomplish this. One is a good group of trees behind the house, and the other is a nice lawn in front of it. The trees serve as a background and the lawn makes the foreground. Besides this there should be trees on each side to form, as it were, the frame to the picture. These things go to center the attention on the house and at the same time may be the means of hiding some other buildings, such as barns, stables, etc.

The lawns should not be cut up by roads nor should there be trees in it, especially if it is small. It should be covered with grass and all flowers kept out of it. If flowers are desired in the front part of the grounds they should be along the edges, and not in the center. I know of homes where the removal of two or three trees, which stand almost directly in front of the house, would make beautiful places of them. As they are, there are so many trees in front of the house that it cannot be seen, nor can some beautiful scenes, which would be visible from the house, be seen. Not being able to see the house, the attractions of a home are lacking. There are those, on the other hand, that have very few trees and these are so arranged that they tend to obstruct the view of the house, but in no way center the attention on the house nor exclude the view of mountains several miles in the rear. Mountains fifteen or twenty miles away do not make good backgrounds for the home.

For the rear of the house, or for the background, the Calorina poplar, pecan, cottonwood, elms and mulberry the background, the Carolina poplar, makes a rapid growth, forms a background quickly, and by the time it is gone the other trees will be large enough to take its place. Elms, honey locust and black locust are good for the sides. A few black walnuts should have a place along with the trees used on the sides of the planting, for they make a good shade and last a long time. Of course these are for the homes where there is plenty of water for irrigating.

It is doubtful if some of the trees mentioned above, especially the locusts, elms, pecans and walnuts, will make good, long-lived shade trees, however, if the water table is within four or six feet of the surface.

Salt cedar, Mountain or Desert willow, mesquite and yucca can be used to good advantage where trees and shrubs are to be grown without irrigation and where the rainfall is meager. Good arrangement of a few trees and shrubs will produce pleasing effects. J. W. RIGNEY.

## HOMEMADE LIME-SULPHUR SPRAY.

The following reply to a recent inquiry was sent by the Biological Department of the New Mexico Agricultural Experiment Station:—

"There are two common formulae for the making of the lime-sulphur mixture. The first is as follows: Provide a vessel sufficiently large for boiling 50 gallons of material. If small quantities are desired, of course the vessel could be smaller and the amounts of the ingredients reduced.

"Take 20 lbs. of stone lime that tests at least 90 per cent calcium oxide and slake it in about 5 gallons of water in the vessel over the fire. While it is slaking well, add to it about 15 lbs. of flowers of sulphur that have been sifted through common screen wire and then stirred into a paste in about 2 gallons of water. Stir in well, then add from 10 to 15 gallons of water, preferably hot. Cook the mixture until all the sulphur disappears from the top of the mass and the mixture becomes a reddish-yellow color, usually taking about 45 minutes. Add water to bring this up to 50 gallons now. Strain into the spray tank through a fine mesh sieve, about 40-mesh, and use without further dilution, for winter spraying before the buds are out.

"The second formula is for the concentrated mixture. Slake 50 lbs. of lime in 12 gallons of water. Add 100 lbs. of sulphur, prepared as above, while the lime is slaking. Add water to bring the amount up to 50 gallons and boil for about 1 hour, or until done, as above. Add some water finally to replace what boils away. Strain. Now this mixture is too strong to apply, as it is, and has to be diluted. When it cools, test the density with a Baume hydrometer and dilute as follows:—

25 to 28 Baume, add 7 gallons of water to 1 gallon of solution.

28 to 31 Baume, add 8 gallons of water to 1 gallon of solution.

31 to 34 Baume, add 9 gallons of water to 1 gallon of solution.

34 to 36 Baume, add 10 gallons of water to 1 gallon of solution.

"If you do not have a hydrometer, it is pretty safe to dilute with 8 to 1, as that is about the average test. A little stronger will not hurt, but it would be a slight waste of materials, as the added strength is not needed to kill the scale. The above are for dormant spraying. The advantage of using the latter formula is that one is able to prepare so much more of the solution in the same length of time."

## FALL PREPARATION OF GROUND.

The season to put your land in shape for the winter is, as a rule, during the fall. The late fall, winter and early spring seasons are usually dry and windy and the soil is liable to blow if left in a level condition. The winter snows are usually accompanied by heavy winds and unless the surface of the ground is rough most of the snow will blow off and pile up in roads and canyons and the moisture will be lost. As moisture is a very important consideration in successful dry farming, we must save as much as possible of it. The snow most winters represents quite a lot of moisture, in the northern part of the State, so we should try to hold it on the ground. The ground at this season, as a rule, is left level and in a fine condition by the cultivation of the previous crop: an ideal condition for the blowing of soil and snow. The way to overcome this condition is by some farm operation that will break up this level condition and leave the ground rough. This operation may be either plowing or listing, depending on the nature of your soil.

Plowing is probably to be recommended for the heavy or "tight" land and listing for the light or sandy soils. The difference between the yields of crops on plowed and listed land is very small, as a rule, and is sometimes in favor of the plowing and sometimes in favor of the listed ground. The small cost of operation of the lister is a strong factor in favor of its use. There is little or no difference in the yields between fall and early spring plowed or listed ground where the soil does not blow. So if the plowing or listing can be done in the fall, the farmer is enabled to do his work at a season when he has more time, and he does not have to wait until spring to do it all, when the proper season for doing this work is short. Where the soil has a tendency to blow, the fall plowing or listing has proven most successful and profitable.

Plowing in the fall should be done to a depth of from six to eight inches and left rough. The plowing should be done when the ground is moist and in a good working condition. Done at this time, it is less apt to blow and the cost of operation is lessened. Left rough, it will have a tendency to prevent blowing and will catch and hold the snow. Another thing in favor of deep plowing is that it makes a more capacious reservoir for storing the water in the soil and provides a larger feeding space for plant roots. It also covers weed seed to such a depth that most of it will not germinate, and where a good job of plowing is done the perennial and biennial weeds are more or less injured or killed by turning up and exposing the root stems to the weather. While deep listing in the fall tends to produce these same results, there is this difference, the plow disturbs all the ground while the lister disturbs only a part. From observations the past season it would seem that land properly plowed is freer from weeds than listed land. And weeds are a menace to successful crop production. Other things taken into consideration would show one method about on an equal with the other.

So whether you are using your plow or lister, the season to use it is when you have the most time and the operation is least expensive; which is usually in the fall. Then when spring opens up you will not have all your work coming on at once, but can do it at the proper time and in the right way. By this system you will require less horse power and man power on your farm to obtain the same results. You will thus be lowering the cost of production and at the same time increasing your net profit.

ORREN BEATY,
Union County Agricultural Agent.

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"Milk that has a bad flavor often acquires this after it is drawn from the cow. It is more often due to such influences than to feed the cows have had."—Reclamation Record.

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"When compelled to milk cows outside, always keep on the windward side, and you will be surprised at the amount of dust that will be turned from the pail."

# Department of Animal Husbandry

## CONTAGIOUS ABORTION.

This disease has been known for many years, both in this country and in Europe, as one of the most destructive of animal scourges. It strikes at the beginnings of life and thus threatens the very foundation of the dairy industry. Besides causing the death of the calf it lessens the value of the mother both for milk production and for breeding. The annual loss from contagious abortion in the United States is estimated to be at least twenty-five million dollars. In Connecticut today it probably causes greater loss to our dairymen than bovine tuberculosis and is as widely distributed. Few herds of any considerable size are entirely free from it.

The disease often shows itself by explosive outbreaks which threaten ruin. After a time it appears to be under control and the hope is expressed that it has completely burned itself out or has been "cured" by some medical treatment or disinfection. But herds once infected seldom if ever get rid of the disease under the treatments hitherto adopted. Herds or individuals which have "recovered" are generally carriers of the disease even if themselves immune and may at any time through the bull or in other ways transmit the disease to nonimmune stock and thus start another outbreak. It is quite certain that many cows do not abort although carrying the germ of the disease. They are nevertheless as grave a menace to other cows as are those which themselves abort.

There is at present no known remedy for contagious abortion. Such preventive measures as attempted sterilization of the sheath of the male and treatment of the genital organs of cows which have aborted and their separation from the herd until all signs of an abnormal condition are gone and strict cleanliness in the barn no doubt greatly help in confining the disease to the originally affected animals but in the hands of subordinates often are ineffective and even with the utmost skill and care entire reliance cannot be placed on them.

Fortunately the first of these measures for eradicating the disease is now possible. The prompt detection of cows which are carriers of the disease, whether such animals are immune from its effects or not, is now quite easy.

Two blood tests have been devised by others and have been studied by the Storrs Station for the last two years under the cooperation of Dr. Rettger, bacteriologist, and Professor White of the Dairy Department, with results which are not only encouraging, but which most conclusively prove that the tests are accurate and reliable.

Dairy animals of all ages and breeds have been tested by these two methods, some of them at regular intervals, and with few exceptions the tests have been fully corroborated by each other and by the results where practical evidence has been available. These tests therefore supply a reliable means of distinguishing infected from uninfected animals of any age whether they have shown the physical evidence of abortion or not.

The Station is now studying the other questions whose early solution is imperative in order to effectively combat this scourge.

Of these the following seem now the most important:

1. Are calves which are born of

infected mothers themselves affected with the germ of the disease?

2. If the disease is directly transmitted to the offspring does the calf remain permanently infected, or does it free itself in so far as external manifestations and blood tests indicate?

3. If the disease is not directly transmitted what are the chances of infection through (a) contact and association with an infected mother or other cows, (b) the consumption of infected unpasteurized milk or other food.

4. What are the most critical periods in the life of an animal, in so far as acquiring the disease is concerned?

5. What is the relative importance of the transmission of the disease from an infected bull or from one cow to another through the intermediate agency of the bull?

6. What part does infected food play, and to what extent is an animal liable to infection by way of the digestive tract?

7. Do cows which are diseased ever rid themselves of the infection? If so, what is the average length of time that an animal remains a carrier?

8. What is the relative danger of transmission by association of cows in the same pasture or barn?

9. Assuming the importance of the bull as an agent in the transmission of contagious abortion from cow to cow, can disinfection of the sheath be relied upon to prevent the transmission, or is it necessary to employ two males in a tainted herd, reserving one of them for the cows and heifers which are known to be free from the disease?

The work of the Station has already gone far towards establishing certain facts of prime importance bearing on these questions and it is hoped that after the work of the coming winter the results may be in such shape as to warrant publication.

The very meager amount of our appropriations does not permit of pushing the work as it should be pushed. Its importance to our dairy interest is beyond question.

The present methods of detecting the disease make its further study easier and methods of control much more promising than ever before. I hope that those interested in dairying will fully appreciate the general danger from the disease, and will interest themselves in supporting adequately the work of combating it.

DR. E. H. JENKINS,
Director, Storrs (Conn.) Experiment Station.

Note.—This disease has appeared among the cattle on some of the Western ranges, and unless steps are taken to control it, may in time become a serious menace to the New Mexico cattle industry.

## OX WARBLES DAMAGE CATTLE.

The characteristic lumps or swellings which may be found under the skin on the backs of many cattle from January until April contain grubs. If these grubs are allowed to remain, they will complete their growth, drop to the ground and transform to heel flies which may reinfest the cattle during the spring and summer, according to T. J. Talbert of the University of Missouri College of Agriculture. The grubs weaken the cattle, cause them to fall off in flesh and milk, and decrease the value of the hide. The beef in the immediate vicinity of a grub becomes slimy and of a greenish color, and is known to the butcher as "licked beef." On an average, the damage to the hides is placed at one-third their value, and the loss of beef to each infested animal ranges from $3.00 to $5.00.

The grubs may be pressed out through the opening at the top of the swelling. A sharp knife and a pair of tweezers will often facilitate the work of removing the grubs. Care should be taken to crush all the grubs removed, to prevent their further development and transformation into flies. It is advisable to examine the cattle for lumps or swellings over the back every two or three weeks during late winter and early spring to detect the pest. Various oils are often used. The lotion is either smeared over the infested region, or applied to the mouth of the breathing hole of the grub. One or two applications will usually be sufficient. The objection to this method is that the wounds do not heal readily unless the grubs are removed.

Some have claimed that the arsenical and coal tar dips can be used in the case of large herds which can not readily be treated by direct removal of the grubs. It still remains to be determined, however, whether practical means of eradication can be made by the use of dips. Dips applied during spring and summer will no doubt kill many maggots, and eggs which are attached to hairs on the animals' bodies.

The adult of the ox warble is a fly about half an inch long, very hairy, and resembles a small black honey bee. The females in depositing their eggs on cattle worry and torment the animals and frequently cause them to stampede for shelter or water. The fly does not sting or bite, but the animals seem to have an instinctive dread of its approach just as the horse has for the bot-fly.

Fish oil, train oil, and other substances are often recommended as spray to keep off warble flies. To be effective, their use would have to be continued during spring and early summer, and such a practice would be difficult, inexpensive and impracticable except in the case of small herds of valuable cattle.

The flies do not appear to attack cattle which stand in water or in dense shades.

# Department of Agronomy.

## DEPARTMENT OF AGRONOMY

### Grimm Alfalfa.

In 1857 Wendelin Grimm brought about 15 pounds of "everlasting clover" seed from his home in Germany to Carver County, Minnesota. This has since been named "Grimm alfalfa," after the thrifty German farmer who brought it to America.

This type of alfalfa is most easily identified by its variegated flowers, purple to yellow, by its sunken root crown, and by its branching roots. The petals of the flowers are somewhat larger in size than those of most other commonly grown alfalfas. The foliage of different plants varies noticeably, many plants having narrow leaflets.

Although Grimm alfalfa has been grown in this country for something over half a century, its area of production is mostly limited to localities of severe winter climates.

Owing to its habit of growth, less seed is required per acre, 7 or 8 pounds of good clean seed being sufficient when sown on a well prepared seed bed, under favorable conditions. This variety has the stooling habit and sometimes sends out runners from the crown like the strawberry plant, but this is usually a rather slow process. It has a much more branched root system, but the roots usually extend quite deeply into the soil. In many instances the roots have been found at a depth of ten feet. In reply to the question of root depth, a Colorado grower who has had wide experience with Grimm alfalfa has the following to say: "Grimm alfalfa has proven to be one of the best strains for shallow soil conditions, on account of its much branched root system, but I do not think that it has any shallower root system; in my experience it goes just as deep as any alfalfa, but it has more lateral surface roots."

In view of the fact that Grimm alfalfa seed is so expensive and that its superiority over the native grown seed is questionable, except, possibly, in the case of hardiness to cold, it would seem best for the average farmer to sow only a small acreage and produce his own seed for a larger area if by that time he has decided that he wants to grow this variety of alfalfa.

RUPERT L. STEWART,
Agronomist.

## COST OF ENSILAGE

The cost of putting up the ensilage this fall upon Evan Coleman's place at Thatcher, Ariz., is shown by County Agent Ballantyne to be as follows:

| | |
|---|---|
| Five cutters (two part of the time) | $ 9.00 |
| Three teams, drivers and wagons | 18.00 |
| To rent of engine (with owner feeding) | 18.00 |
| To rent of cutter | 10.00 |
| Two laborers | 4.00 |
| One man | 1.00 |
| Two trampers | 5.00 |
| Total cost | $ 65.00 |
| Total cost 1.9 acres corn put in silo | 53.08 |
| Cost corn in silo | $118.08 |
| Total 53.58 tons corn on 1.9 acres, so it cost, per ton | 2.20 |

Filled October 18th and 19th, taking about 11 hours or its equivalent with a full crew . Including 5 per cent depreciation on silo and 5 per cent interest on investment of silo, total cost of ensilage per ton is $2.64. —Weekly Press Letter, University of Arizona.

# The Home Department

Edited by GAIL RICHIE, State Demonstrator in Home Economics.

## CLEANING SILVERWARE.

### Electrolytic Method Recommended—Simple Homemade Outfit Gives Satisfactory Results.

An easy and effective method of cleaning tarnished silverware by boiling in a soda and salt solution in contact with a clean piece of aluminum or zinc is recommended to housewives by the department as a result of studies made by its specialists in home economics. The necessary procedure is so simple that it may be followed successfully in practically any home.

The cleaning system known as the electrolytic method has been well recognized for several years.

### What the Electrolytic Method Is.

The tarnish which occurs on silver is not due to oxidation, but is dependent entirely upon the action of sulphur. In most cases the source of the sulphur causing tarnish is rubber, wool, foods like eggs, and the sulphur in the air due to burning illuminating gas and coal. The electrolytic cleaning method depends on the facts that this tarnish of silver sulphid is slightly soluble in the hot solution employed, and that it is broken down chemically and its silver content redeposited on the ware when the proper electrical conditions prevail. The presence of both the silver and the aluminum or zinc in the hot solution provides the necessary electrical conditions. Under this method, therefore, practically all the silver in the tarnish is returned to the object being cleaned. When silver polishes are used, on the other hand, all the silver in combination in the tarnish is removed.

### Methods Recommended.

In the cleaning method recommended by the department the necessary materials are a graniteware cooking utensil deep enough to allow the silverware to be covered by the solution; a clean piece of aluminum or zinc, preferably the former; and baking or washing soda. The solution, consisting of a teaspoonful of baking or washing soda and a like amount of table salt to each quart of water, is brought to a boil in a graniteware or enameled utensil. A sheet of aluminum or clean zinc is dropped in. The tarnished silverware is then immersed in the solution so that it is in contact with the sheet of aluminum or zinc. The tarnish should disappear in a few seconds. The silver object should then be removed from the solution, rinsed, and dried with a soft cloth.

Aluminum is much more satisfactory that zinc for use in this cleaning process, since it does not become coated with a layer of carbonates which would interfere with the chemical reaction. Zinc does form carbonates, and, if used, must be cleaned frequently in dilute hydrochloric acid. A small sheet of aluminum may be purchased, especially for silver cleaning purposes, or a piece of an old aluminum utensil well cleaned may be used. Utensils which would later be used in cooking operations should never be employed in cleaning silverware by the electrolytic method. If very large pieces of silver are to be cleaned and a container is required larger than can be placed conveniently on the stove, the hot solution may be poured into such a vessel and the silver object then immersed. The method is most effective, however, when the solution boils during the cleaning process, and efficiency is rapidly lowered as the temperature of the solution falls below the boiling point.

### Special Considerations.

The electrolytic method gives the cleaned silver a satiny finish after several cleanings. If a burnished surface is desired, the silver must from time to time be polished lightly with some abrasive polishing material such as powdered whiting. The study made by the department specialists included a comparison of the amount of silver lost when the whole tarnish was removed by polishing and when the electrolytic method was used. It was found that when whiting paste was used as an abrasive, spoons lost nearly 0.01 of a gram of silver each, approximately twenty-five times as much as when the "homemade" electrolytic method was employed.—Weekly News Letter, U. S. Department of Agriculture.

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"Do not constantly dope the horses. Feed them right and exercise them daily, and they will not need medicine any more than their owner."

# Boys' and Girls' Club Work

W. T. CONWAY, State Leader.

## RESULTS OF CLUB WORK FOR 1916.

Money talks, and people are not satisfied unless they can hear its voice.

The greater results of Club Work are not necessarily the making of money from Club projects, yet there must he the profit-bearing element in all the work, to give zest and interest to the workers.

We are glad to report a net profit to the State from the Club Work for 1916. While the profit is not large, the Club Work is new, and the majority of the people have not yet realized its value. However, they will realize its value as the years go by, for it is one of the greatest factors in the ultimate success of industrial education.

Up to December 15, 583 Club members had sent in their final reports to the State Club Leader. As many more, no doubt, finished their year's work, with the exception of making out their final reports. The final report must come in before the Club project is really completed. The members who have failed in this have missed a great deal.

Not all of our Club projects—as Cooking and Sewing—bring in a money net profit at the close. But they have a real value, just the same. We have given credit to the Club girls for all the "home hours" reported, and are sure they have saved more than this to their homes.

The value of all products reported for the year was $10,161.15. The cost of producing this value was $3,474.11. This left a net profit to the Club workers of $6.687.04, or an average net profit per member of $11.47.

The best three profit-bearing projects were Crops, Pigs, and Chickens; and in the order named. Field Crops of all kinds produced by the 120 members reporting had a value of $4,281.48. The cost of production was $930.43; leaving a net profit to the Club members of $3,352.05, or $27.91 per member.

Many of our Pig Club boys and girls raised more than one pig, yet only a few of them reported on more than one. An even 100 reported having raised a pig each. The value of the pigs was $2,838.61. The cost of feed and care was $1,152.71, leaving a net profit to the members of $1,685.90.

The value of chickens reported by Club members was $1583.55. The cost of feed and care was reported as $690.06; leaving a net profit of $893.49.

Thus we see that the Club Work is a great economic factor in our country life. It means better living and more home comforts to those who really do the work.

It might also be of interest to give a few results from some of the best counties in the State. We cannot make comparisons of the work in the several counties, because the conditions are not the same and it is left largely in hands of the county agricultural agents as to what phases of Club Work are best adapted to the different sections of the State.

With the exception of Curry, all of the Counties mentioned have county agricultural agents. Colfax County had two paid leaders for Club Work during the summer,—one for the school district of Raton and another for

Springer. There was also a paid leader in Bernalillo County for the district of Albuquerque. It will be well for other districts to follow this example, because it means a larger percentage of Club members completing, and relatively larger net profits.

| County | No. Mem. Finishing | Value of Prod. | Profits to Mem. |
|---|---|---|---|
| Colfax | 121 | $2,741.87 | $1,749.86 |
| San Miguel | 54 | 1,224.04 | 835.82 |
| Eddy | 85 | 1,131.70 | 680.42 |
| Bernalillo | 56 | 873.79 | 619.69 |
| Chaves | 31 | 786.65 | 523.14 |
| Torrance | 32 | 679.46 | 474.74 |
| Curry | 20 | 441.15 | 274.52 |
| Totals | 399 | $7,878.66 | $5,156.19 |

It will be seen that the seven counties above have done about 70 per cent of all the Club work in the State. Fifteen other counties have done 30 per cent of the Club work. What is the outlook for 1917? That is another story.

## STORY.

### Pig and Crop.

One day last winter Mr. W. T. Conway visited our school and stated that he was "State Leader" in Club Work. The next evening he came back and gave us some application blanks so that we could join if we wanted to. After having thoroughly considered the matter with my father, I decided to enter the "Corn and Pig" Club.

The next evening I rode over to Mr. C. P. Sherman's ranch and picked out a nice black pig. I had him brought home the 29th day of February. I put him in my father's hog pasture, which consisted of eight acres which was sown three years ago last spring with oats as a cover crop. The hogs do not keep the oats or alfalfa grazed closely and we don't mow the alfalfa till the oats are fully ripe. Then, in mowing the oats there are enough shattered oats to reseed the ground. By disking the ground the latter part of July or first of August and then watering, provided you don't have rain enough, you get another good set of oats, which makes the best kind of winter pasture for hogs, which require but little grain to make a good balanced ration.

About this time I had my seed corn selected and on the 29th of May I planted it. Both the corn and the pigs grew very rapidly. I don't know which grew the faster, but they both grew fast. My pig got so when he saw me coming he would run to me, put his fore feet on the highest wire and open his mouth for something to eat.

The corn never needed much cultivation and was never weedy. My father had told me that if I would thoroughly cultivate my corn plot before planting my corn it would be better and require but slight cultivation after it came up. Consequently I plowed it about 8 inches deep in the winter, and disked it thoroughly and let it lie until the middle of May, when I made the lister furrows and watered it well. As soon as it got dry I planted it with a one-horse planter and harrowed it well two or three times till the corn got too tall to harrow. I took the disc cultivator and gave it a shallow plowing once. We had seven inches of rain on the 7th of August when it was tasseling and silking, and consequently it did not need water after it was planted. Some of the stalks grew to be twenty feet tall and some of our workmen say it is the best corn they ever saw.

There isn't much hard work in the clubs and I think every country boy and girl ought to join one of them.

If you don't get a prize you get a lot of experience.

I live in Roswell and am in the ninth grade at the Roswell High School. I enjoyed the trip to the State Fair very much and certainly had a good time. Mr. Conway and Capt. Toulouse treated us fine. We visited the University and went afterward to the Y. M. C. A. Building. I have my prize money in the bank and expect to invest it in hogs.

ROBERT STRICKLAND.

### Statement.

| | Dr. | Cr. |
|---|---|---|
| Crop, 1-2 Acre. | | |
| Seed, fertilizer, labor and rent | $ 6.55 | |
| Sold 1,000 lbs. corn, at 5c | | $50.00 |
| Sold 32 bushels, at 90c | | 28.80 |
| County premium | | 5.00 |
| State premium | | 10.00 |
| Net profit and premiums | 87.25 | |
| | $93.80 | $93.80 |
| One Male Pig. | | |
| First cost | $ 5.00 | |
| Feed and care | 5.86 | |
| Sold for | | $60.00 |
| Premiums | | 25.00 |
| Net profit and premiums | 74.14 | |
| | $85.00 | $85.00 |

Total net returns on crop and pig, $161.39.

Note.—Robert Strickland is the State champion Club member for 1916. For this he received the L. C. Mersfelder gold medal.

## A CORRECTION.

The following should have been the order for the first five in the list of State prize winners in the Bean Club which was published in the December issue of the "Courier." All others are the same as published in that issue:—

Willie Clark, Estancia, grade 86.2, first, $7.00.

Pedro Crespin, Trujillo, grade 84.6, second, $4.00.

Luther Vanderford, McIntosh, grade 81.4, third, $1.00.

Bera Butler, Moriarty, grade 79.1, $ .50.

Walter Hoyland, Mountainair, grade 78.3, $ .50.

## Things to Do Now

1. Decide to have Club Work in your community.
2. Provide for a paid leader to follow up the Club Work during the summer.
3. Choose only one or two Club projects for a community, unless you have more than thirty members.
4. Select a Local Leader for each Club project. Do not attempt to organize a Club without a Leader.
5. With project chosen and leader selected, organize by electing Club officers ,and appoint a definite time to begin work.
6. Ask your County Agricultural Agent for enrollment cards and Club lessons, or write the State Club Leader for them.

Gardeners should prepare their garden plots by fertilizing and digging or plowing it under.

Crop Clubs should select their acres and prepare them by plowing, disking or listing.

Pig Clubs should select their breeds and secure their pigs before April 1.

Poultry Clubs should select their breeds, engage their eggs and set them early. Prepare for the chicks before thy hatch.

Cooking and Sewing Clubs should plan to begin work by the first of April.

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# THE NEW MEXICO FARM COURIER

VOL. V. FEBRUARY, 1917. NO. 3

## WATER IN EVERY HOME

"THIS WORK IS SIMPLY KILLING ME"

"I WOULDN'T THINK OF LEAVING THE FARM"

## IS THE YEAR'S AIM IN HOME ECONOMICS

(See page 14.)

Published Monthly by The
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J. W. KNORR....Carlsbad, Eddy County
V. L. MARTINEAU, Raton, Colfax County
H. C. STEWART, Albuquerque, Bernalillo County.

## FARMERS' AND HOME MAKERS' WEEK.

The program of the Farmers' and Home Makers' Week held at the Agricultural College from January 8th to 13th was undoubtedly the most interesting, most appreciated and most successful that has ever been given here. While the attendance was excellent and showed a gratifying increase over last year's registration, it is felt that there are hundreds of farmers and home makers who would not miss this annual feast of practical agricultural education if they had a real conception of the value of the useful and practical ideas gained by those who attend.

If any were kept away by the fear that the lectures and demonstrations would be too technical and complicated to be understood and applied by the average farmer, they will be surprised to learn that every speaker who was compelled, in the course of his discussion, to bring up a technical point to make clear a practical phase of his subject, did so after an apology to the audience. It is realized that the farmers and home makers want practical advice and suggestions; and the annual farmers' and home makers' conference is the place to get them. Everybody is invited to ask questions about matters which are not taken up in the lectures or which are not made perfectly plain.. A noticeable feature of the sessions was the eagerness with which the farmers took advantage of this privilege, and many of the best points in the discussions were brought out in this way.

The speakers were specialists in the various subjects which they discussed, and some of them are considered among the highest authorities in the country in their respective lines. It is doubtful whether any man could be secured who would be more competent to discuss livestock problems than Dean W. L. Carlyle, of the Oklahoma Agricultural College, and a deep and splendid interest in his talks was manifested by the farmers. The subject was one of vital importance to them and they realized that the speaker was thoroughly capable to help them. He made the farmers feel that livestock is one of the fundamentals of farm life and that the man who tries to farm without raising some livestock is not the one who will be most likely to be successful and get the most out of rural life. His talk on Wednesday morning was full of good suggestions on what kind of stock to raise and how to improve and care for it. His discussions of beef cattle raising, sheep feeding, and hog raising were of inestimable value to the farmers who heard them. A significant remark was heard during one of these discussions from a farmer who whispered to the man sitting beside him, "I wish I had known that fifteen years ago."

Dairying is another subject which is of great interest to the valley farmers of the State, and this subject was ably discussed by Mr. E. V. Ellington, of the Dairy Division of the U. S. Department of Agriculture, and Captain Franklin, Manager of the El Paso Dairy. Almost every imaginable question connected with the dairy industry was brought up by the speakers or by inquiries from the audience. What kind of cows should I keep? What should I feed? What kind of sires should I use? What should I do with my calves? What should I put in my silo? Dozens of questions such as these were answered and discussed fully. A valuable feature of the program was the judging demonstrations held at the College livestock barns. Captain Franklin and Mr. R. W. Latta, State Agent in Dairy Extension Work, discussed the good and bad points of several cows and heifers of various dairy breeds and showed the farmers how to tell what they might expect from individual cows. Captain Franklin would probably suggest emphasis on that word "expect," for he says the only true test of a cow is the milk record, which he advises every farmer to keep. His detailed discussion of the methods that have brought the El Paso Dairy herd up to its present high standard also aroused a great deal of interest.

In the matter of livestock diseases and farm sanitation, the farmers had the privilege of hearing Dr. J. E. Gibson, U. S. Veterinary Field Agent. Dr. Gibson has had many years of experience as a practicing veterinarian, packing-house inspector, and Government agent in hog cholera control work; and it would mean a great step in agricultural progress for the State of New Mexico if every farmer in the State could have heard his talks. Besides the enormous saving which would be effected and the increased value of livestock which would result from following Dr. Gibson's suggestions, a large portion of the suffering, sickness and death of human beings attributable to unsanitary farm conditions would be done away with—a benefit which cannot be expressed in terms of dollars and cents.

Mr. R. A. Hart, U. S. Drainage Engineer, who has organized and planned many of the large drainage projects in the West, pointed out the needs and benefits of drainage in some parts of New Mexico and explained the procedure of organization for drainage district reclamation. There were several farmers present who felt that it did not require an expert to make them understand that their lands were in need of drainage, but they were more than willing to listen to a man who could tell them how to overcome this evil by which thousands of acres of the best land in the State have been rendered unproductive.

President Ladd explained to the farmers what the College is doing for them, what it would like to do for them, and what it could do for them if it had the support which it deserves from the people of the State. He sketched briefly the history of the agricultural extension work in New Mexico and then cited some striking results of the agricultural extension work during the past year, giving definite figures of increased profits and savings brought about by the work which is being conducted with the farmers on their farms through the County Agricultural Agents and other extension workers.

There were many other interesting discussions included in the farmers' program—each of immense practical value to the people who heard and took part in them. Dr. Higley, head of the Chemistry Department at the College, gave an excellent talk on the practical side of water chemistry. Mr. R. B. Thompson, Assistant Poultryman, discussed the farm poultry flock; Mr. R. S. Trumbull, Agricultural Agent of the El Paso & Southwestern Railway, discussed the humus and nitrogen problem; Prof. R. L. Stewart, Agronomist, the corn crop; Director Garcia of the Experiment Station, truck crops; Prof. Merrill, Biologist, and Mr. Rigney, Assistant Horticulturist, spraying; Prof. Foster, steer feeding; Mr. Phil Erickson, Agriculturist of the Holly Sugar Company, the growing of sugar beets; Prof. Vaughan, the farm loan act; Rev. T. L. Lallance, socializing rural life. Every one of these talks was well worth hearing, and the people who heard them carried away a fund of infromation which will make them better farmers and better citizens.

The success of the home makers' conference was due largely to the presence of Mrs. Nellie Kedzie Jones, of Wisconsin, an experienced home maker, educator and extension worker, who appeared on the program every day, usually twice, and was a delight and inspiration at every appearance. Her talks were practical and helpful and were given in such a manner as to make the home makers present eager to follow her advice and suggestions and make them proud of their "profession." In order to avoid the appearance of selfishness on the part of the ladies, arrangements were made for Mrs. Jones to give two of her best lectures, "Dividing the Dollar," and "The Girl Who Can," before joint sessions of the men and women. She made the fact plain to the men that the farm is not all outside of the house.

The talks and demonstrations of the others who took part in the home-makers' program were also interesting and appreciated. At the present rate of increase, the ladies will soon take the lead in the matter of attendance. While they were considerably outnumbered by the men at the short course a year ago, the attendance was about equally divided this year. It would seem that the ladies are quick to recognize the value of the short course and do not intend to let any of its benefits escape them.

In later issues of the "Courier" brief abstracts of the various discussions will be given from time to time, in the hope that they may benefit to some degree those who did not attend this year and may arouse such an interest in Farmers' and Home Makers' Week that Hadley Hall will be filled to its capacity at every session during the second week of January, 1918.

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## ANTI-FREEZING SOLUTION.

A good antifreezing solution for the automobile radiator may be made of one part denatured alcohol to two parts water.

# FARM SANITATION.

The following paper was read by Dr. J. E. Gibson, U. S. Veterinary Field Agent, at a session of the short course during Farmers' Week, held at State College January 8th to 13th, 1917:—

The American people are today enjoying a season of prosperity unprecedented in the history of the country. It has not always been thus, nor can these conditions be expected to continue indefinitely. We cannot expect to wallow in luxury, must not hope to continue in our mad career of profligate waste, if we are to continue as a nation.

The Secretary of Agriculture has shown, by records kept through a long period of years, that the farmers of the United States are sustaining an average annual loss of more than $212,000,000 from live stock diseases. A few weeks ago, the newspapers announced, in glaring headlines, that up to that time it had cost the Government $67,000,000 to keep the soldiers on the border and sustain the punitive expedition into Mexico, and the people stood aghast. Point out to them the fact that in 1913 the farmers of the country lost a sum just $2,000,000 short of this amount from hog cholera alone, and that the average annual loss from this disease is $60,000,000, and they will smile and take it as a matter of course.

On every hand we are being admonished to prepare for what we all hope may never come, and just the other day the Secretary of the Navy asked Congress for an appropriation of $63,000,000 for the purpose of making certain specified additions to the navy, among which were two dreadnoughts and a large number of other war craft. Note that the sum asked for is $2,000,000 less than the loss from hog cholera in 1913, and only $3,000,000 more than the average annual loss from that disease. We should, I think, study the question of preparedness with much earnestness, and I know of no better place to begin the study than on the farm. I do not hesitate to say than 75 per cent of these staggering losses can be overcome by the application of the ordinary sanitary precautions that are within the reach of every farmer. If I am correct in my assertion, and I think I am, then I can characterize this stupendous loss as nothing less than waste of the most profligate sort.

The United States Bureau of Animal Industry is putting forth every possible effort to assist the farmer to overcome these losses; in the laboratories and in the field scientific research and practical demonstrations are being carried on and the results of these investigations and experiments are being sent out in the form of bulletins and trained men are carrying the information gained to the very door of the farmer. But if we are ever to hope for anything even approaching the eradication of disease from our flocks and herds we must have the intelligent co-operation of the farmer himself. I am happy to believe that the thinking farmers are becoming aroused to the necessity of making some systematic effort for the control of livestock diseases.

In considering the question of sanitation on the farm the average farmer is too much inclined to regard it as something out of the reach of the majority; something to be practiced only by the farmer of large means. Too often the mention of the need of sanitary measures on the farm produces a mental picture of mysterious medicinal agents and still more mysterious paraphernalia for their application. In the scheme of sanitation, medicinal agents are sometimes desirable, not to say indispensable, if disease has actually made its appearance on the premises. But in the prevention of disease, which is by far the more important part of the scheme, sanitation and common sense are, in my judgment, synonymous terms.

Preventive, rather than curative measures have come to be uppermost in the minds of the leading men in the medical world, whether it be in human or veterinary medicine; and sanitation is, therefore, to my mind, the greatest word in the English language when applied to disease, whether it be in the family or among the animals.

No better example of what can be accomplished by the application of proper sanitary measures could be cited than that afforded by the cities of Cuba. When the American forces occupied these cities during the Spanish-American War they were found to be literally reeking with disease. The strict enforcement of sanitary measures has rendered them free from disease and made them desirable places in which to live. Colonel Goethals found the Canal Zone well nigh uninhabitable, and left it a delight. What has been accomplished in these cities can be accomplished on the farm with decidedly less effort.

Among the more important factors to be considered in connection with farm sanitation is the water supply. Water may be, and very frequently is, palatable yet dangerously contaminated with the germs of a deadly disease. Somebody has figured that a well drains an extent of ground represented by an inverted cone, the radius of which is at least four times its depth, or even more when the drain on the well is considerable. How often do we see the well in the barnyard surrounded by filth ankle deep, teeming with animal and vegetable organisms, the result of impregnation with animal excreta and barnyard refuse. Although water coming from a well thus surrounded may be palatable and produce no visible bad results, yet no reasonable person will believe that animals receiving their daily supply of water so contaminated can enjoy their full measure of vitality and produce a maximum amount of profit.

AIR is another important factor to be considered, in fact is one of the essentials in the proper growing of live stock. My experience on the ranges of the West has led me to the conclusion that animals grown here do not suffer greatly from a lack of ventilation. In the East and North, however, proper ventilation in the barns is a matter of prime importance. Just at this time I believe it would not be out of place to say that, in my judgment, the subject of shelter, both from the hot sun in summer and from cold, wet weather during the winter season, would bear much more consideration than we have been wont to give it. The 3-wire fence, which is all too often the only shelter afforded, is scarcely adequate for the proper protection of our dumb friends, either in summer or winter, if they are to produce the profit we usually expect. But to return to the subject of proper ventilation of the stable: While it may be doubted that the air of a poorly ventilated stable where none but healthy animals are kept, will actually produce disease, it is but reasonable to say that the gaseous impurities, such as carbon dioxide, for example, will cause the same feeling of sluggishness and lack of vigor that is often observed in people who work or sleep in overcrowded or poorly ventilated apartments. The ammonia gas, always present in poorly kept and badly ventilated stables, while it may not of itself be injurious to the health of the animal, will, without doubt, be injurious to the eyes, besides causing irritation of the respiratory tract. It would seem the better part of wisdom, then, to haul the manure from the stables out on the fields to enrich the soil, rather than to permit it to accumulate in and about the stables to give off these noxious gases which will surely irritate if they do not actually endanger the health of the animals. In saying that poorly kept stables may not be injurious to the health of the animals I am not admitting that the accumulation of manure will not cause disease, for, as a practitioner I have frequently been called to treat cases of lameness that were traceable directly to these conditions and have seen many valuable animals rendered practically worthless by diseased conditions of the feet. While not coming strictly under the head of air and ventilation, these matters are to be considered in any discussion of sanitation on the farm and are entitled to more than a mere passing notice.

Any discussion of the question of sanitation would be incomplete without some reference to feeds and feeding; indeed these may be regarded as among the more important points to be considered, as it is well understood by members of the veterinary profession that more horses die from intestinal disorders than from all other diseases combined, and these disorders are invariably the result of diatetic errors. By that I mean to say, improper feeding.

It would not be possible, in a paper of this character, to enter into any lengthy discussion of feeds, their nutritive value, etc., but a few points along this line are worthy of consideration, for it may be said that the problem of successful stock management resolves itself largely into a question of how to feed; and experience has shown that, as a rule, the stock owner is not as familiar as he should be, and might be with a little study of the conditions on his own farm, with the principles of stock feeding. And this suggests that a little study of these principles would undoubtedly prevent much disease, as well as considerable annual loss. Among the more important points to be considered is the nutritive value of the different kinds of food, proper preparation, digestibility, proper time to feed, quality and quantity. The foods must be wholesome, clean and sweet; the hours of feeding should be regular and cleanliness in preparation and administration must be strictly adhered to. Musty or mouldy feed is always dangerous and should never be fed. It is poor ecoonmy to feed musty food merely to prevent its loss. Better suffer the loss of the feed alone than to take a chance on losing both the feed and the animal to which it is fed. It should be remembered also, that an important point in sanitation lies in keeping the troughs clean and sweet, particularly if cut hay mixed with ground or crushed grain and wetted is being fed during warm weather. Such food will undergo fermentation very quickly and a small quantity of it adhering to the trough will soon become so putrid as to cause severe intestinal disturbances.

Among the specific recommendations contained in the latest report of the Secretary of Agriculture is one for the inauguration of a systematic campaign for the eradication of tuberculosis in cattle and swine. He states that this disease is the most common, destructive and widely disseminated of the infectious diseases of domestic animals, causing losses estimated at $25,000,000 a year in the United States.

My experience as an inspector in packing-houses in different parts of the country, where I have seen thousands of animals condemned because of this dread malady, has led to the belief that the best place to begin this campaign is in the feed lot and on the farm.

Of the 100,000,000 animals slaughtered for food during the year ended June 30, 1915, approximately 60,000,000 were slaughtered under Federal supervision. Of this number 299,958 were condemned as unfit for food and 644,668 were condemned in part. Thirty-two thousand six hundred and forty-four carcasses of cattle and 66,000 carcasses of swine were entirely rejected on account of tuberculosis, and, in addition, parts of 48,000 cattle and 440,000 swine were condemned.

While the financial loss caused by these condemnations is almost beyond the power of the human mind to contemplate, that, in my opinion, is least to be considered. A prominent member of the medical profession made the startling statement a few months ago that 1,000,000 American school children are today suffering from tuberculosis, and I read an editorial a few weeks ago in one of our leading daily papers in which the statement was made that this disease is costing the people of the United States $500,000,000 annually; and no account is here taken of the untold suffering, the squalor and want, misery and degradation brought about by this Great White Plague. No note is here made of the widow's tears nor the wail of the orphaned babes. Who will undertake to say how much of this appalling financial loss, how much of this misery, and how many of these tears might be saved by a little attention to sanitary measures at the proper time?

With your high altitude and the climatic conditions prevailing here it may be doubted if the people of New Mexico are fully able to realize the seriousness of this situation. But since only 60 per cent of the food-producing animals consumed by the meat-eating public are slaughtered under the watchful eyes of Federal inspectors, it behooves us to watch carefully the 40,000,000 slaughtered on the farms and in homes where no inspection is maintained, as they are no less likely to be diseased than those prepared under the supervision of the men trained to stand between the people and the disease. Tuberculosis is a preventable disease and strict attention to sanitary measures will do more towards prevention than can be done in any other manner.

It may be doubted if any phase of the question of farm sanitation is so important as that involved in the production of milk, and again it may be doubted if any phase of the question receives so comparatively little attention on the average farm.

City health officers and city sanitarians have long since recognized the dangers lurking in an unclean and impure milk supply and practically every city of importance has strict laws providing for inspection of dairies and creameries. On many farms and in many dairies furnishing milk to residents of smaller towns, however, milk is being produced and handled under conditions which are a positive menace to the health of the people, and, I had almost said, criminal. Where will you find a housewife who would willingly submit to having her kitchen located in close proximity to poultry houses, privies, uncovered cesspools, manure piles and other disease-breeding places? And how comparatively few will interpose serious objection to having the cow stable located amidst just such surroundings? The cow stable, being a place where human food is produced, should be located with decided care and kept as scrupulously clean as is the kitchen where other forms of human food are prepared. If any favoritism is to be shown I would have it on the side of the cow stable, as milk is the natural food of children, who can have no choice in its production or preparation.

Not only should the stable, and other places where milk is handled, be kept free from contamination, but the animals from which it is drawn should be subjected to a thorough brushing before the milking is begun, as a cow suffering from intestinal tuberculosis is continuously dropping the bacillus of the disease to be gathered up on the udder and other parts of the body and dropped into the milk pail. This suggests the use of milk pails with small openings and following these suggestions will tend to reduce the danger to a minimum.

All states should have, and many do have, laws requiring that all cattle used for breeding or dairy purposes be subjected to the tuberculin test and that all reactors be rejected for these purposes and either destroyed or isolated. I have always been and shall never cease to be a strong advocate of such laws, for I believe that if we are ever to have anything even approaching the eradication of tuberculosis we must not only have such laws on our statute books but must see that they are rigidly enforced.

The practice of feeding hogs on milk and slime from creameries is extremely dangerous, as is evidenced by the fact that a large percentage of hogs condemned by Federal inspectors for tuberculosis come from sections in which large dairies and creameries are maintained. By-products from dairies and creameries should be well scalded before being fed, and milk, no matter from what source it may come, if fed to hogs, should be heated to a temperature of 185 degrees. Hogs should not be permitted to feed behind cattle that have not withstood the tuberculin test and the pernicious practice of feeding them on the carcasses of animals that have died from any cause, the offal from slaughter houses, and garbage, without its first being thoroughly cooked, should neither be countenanced nor permitted.

Unfortunately, there are people who will refuse to take these precautions unless forced by law to do so. I say again, therefore, that the surest way to have sanitation on the farm which will not only protect the farmer himself and the members of his family, but the people who buy his products, is through the enactment and enforcement of stringent laws on the subject. Such laws will impose no hardships on the farmer who is trying to use sanitary methods and will force the slovenly fellow to do his duty towards mankind. I contend that no man has the right to harbor or breed disease and thereby be a menace to the community in which he lives.

Mere laws, however, do not stand for much so long as the citizens remain uninformed or where the larger part of the sentiment is against their enforcement notwithstanding the fact that they have been enacted for their particular benefit. An effort by the State alone to control the infectious and contagious diseases within its borders can never be successfully prosecuted by any single department in the absence of the hearty co-operation of every one interested, financially or otherwise, in the up-building of the State's live stock industry and the safeguarding of the health of the public.

To the mind of one who has not had the opportunity of making a special study of the subject, the term infection may have, and often does have, a vague sort of meaning; but to the mind of the sanitarian it refers to the minute forms of life which are responsible for the occurrence of our different infectious animal diseases, which in some cases require the highest powers of the microscope to see; and in others are so minute that no power has yet been produced that will enable them to be seen; as, for instance, the germs that are responsible for hog cholera and foot-and-mouth disease. If we could but see these germs with the unaided eye their effect might be more impressive and their destruction more readily brought about. It is their minuteness that renders the task of destroying them so difficult of accomplishment.

The term disinfection means, of course, the destruction of these living, disease-producing organisms and in order to apply the process of disinfection in an intelligent way we should know something about the nature of the germs with which we are to deal, something about the manner in which it is spread, and should familiarize ourselves with the effect produced by the action of the disinfectant used for its destruction.

A disinfectant may be said to be an agent, either chemical or physical, which destroys the specific germs of disease. Its destructive action may be required for the eggs of some of the larger parasites or for the highly resistant spores of a bacillus, like the spores of the bacillus anthrax, which is so troublesome in some of our Southern States. In either case, however, the principle involved is the same, although the selection of a particular disinfectant which will give the best results will depend on the nature of the virus intended to be destroyed. There are disease germs which offer little resistance to the action of disinfectants, while others are most obstinate. A disinfectant which may readily destroy the one may be wholly unsuited to the other, so that some selection is required and this selection is based on experimental investigation.

The strength of a disinfectant is of the greatest importance, for the reason that if an insufficient quantity be added to a diseased fluid or substance it will merely prevent the growth of some of the organisms without causing their destruction. It may thus be seen that a disinfectant that does not kill is of very little value.

Another very important factor is to be able to distinguish between a disinfectant and a deodorant. Many are inclined to believe that any substance which will control the foul smell which arises from putrefying material acts also as a disinfectant. While some very valuable deodorants, carbolic acid for instance, act also as disinfectants, very many of them do not fill this dual purpose.

The most powerful disinfectant is of little value in unskilled hands. If we are to get results the job of disinfecting must be thorough and complete. There would be little use in disinfecting the walls of a stable if the mangers are to be left untouched, and if would be equally useless to disinfect the walls and mangers and omit the complete destruction of the bedding and litter. Disinfection, to be thorough, must be carried out under the supervision of one who has given some thought to the subject and who knows where the danger lurks. To one who has given little or no thought to the subject the idea that thousands of disease-producing germs might occupy the eye of a needle seems incredible; yet such is the fact, and it is apparent, therefore, that a splash here and there with a whitewash brush or more often with a broom, will not suffice. The success of disinfection lies is thoroughness. Without it we shall surely fail.

# Engineering Extension Work.

## CONCRETE ROADS.

The earliest concrete pavement in the United States of which there is any reliable record was constructed at Bellefontaine, Ohio, during 1893 and 1894. This pavement contains 4,400 square yards and was constructed in squares similar to those used in concrete sidewalk construction. Prior to 1909, the total amount of concrete pavements which had been constructed in this country was comparatively small and in most cases these pavements were looked upon as experimental roads . During 1909, a number of road officials considered the results of the early roads sufficiently encouraging to warrant the use of such pavements, and since that time many concrete roads have been built. During the year 1915 about 1,000 miles of such roads were constructed, and at the present time there is approximately 10,000 miles of concrete highways in the United States and Canada.

There are two general types of concrete pavement, known as the one course and the two course. The first consists of a relatively rich concrete throughout; the second of a somewhat leaner mixture for a base, with a richer top or wearing course applied before the concrete in the base has commenced to harden. Where suitable materials are obtainable, the one course type is preferable . It is simpler to construct and possesses the advantages of there being no possibility of the wearing surface separating from the rest of the pavement and the resistance to wear is uniform throughout the life of the pavement.

To secure the best results in concrete road building, care and judgment must be exercised in all the operations; in fact, intelligent engineering supervision is absolutely necessary. The foundation or subgrade must be provided with adequate drainage, so that water will not remain under the concrete; it must be solidly compacted so that hollow places will not form under the slabs. The materials should be selected, and clean, hard, well graded sand and pebbles or crushed stone should be mixed with a standard Portland cement and clean water to form a mass of jelly-like consistency. This mass is laid about six inches deep upon the foundation, forming slabs about 16 feet wide and from 30 to 50 feet long, with an inch of pitch between the slabs to care for the expansion. When the concrete has hardened sufficiently to prevent pitting or marking, the surface should be sprinkled with water, then covered with two inches or more of moist sand or earth kept wet by sprinkling. This covering must be kept on for ten days to two weeks, to keep the concrete from drying out too rapidly, then removed, and the road thrown open to traffic.

The per-mile cost of a concrete road will vary in proportion to the length of haul and availability of material and labor. Figures based on actual construction under varying conditions and in many sections of the country, show that such roads, based on a 16-foot width, average in total cost $15,000 per mile complete. Such figures are only approximate and the most satisfactory method of obtaining the cost of a concrete pavement is first to ascertain by measurements and computations the quantities of materials to be used and the various kinds of work to be done. Then an estimate based on these quantities and their cost in the locality in which the road is to be built will give the local cost.

The advantages of concrete pavements are that they are very durable under ordinary traffic. Their surface is smooth and even and offers but little resistance to traffic. They produce no dust and are easily kept clean. The maintenance cost is comparatively low and after they become so worn that renewal is not practical, they may be used as a base upon which to lay some other type of pavement. Those interested in roads will find a very fine example of a concrete pavement running from El Paso, Texas, to Anthony, New Mexico, and for further reading along this line, the United States Department of Agriculture has issued a bulletin, No. 249, on this type of road.

F. H. HITCHCOCK.
Associate Professor of Civil Engineering.

# Department of Animal Husbandry

## RAISING DAIRY CALVES.

It is generally acknowledged by dairymen that the only safe way to maintain and improve the herd is to use a bull that will increase the standard of production, and to raise the heifer calves. However, some raise these calves more economically and with better success than others. It is not economical to let the cow raise the calf, and moreover this practice reduces the production of the cow. After the cow's udder has returned to normal, the calf should be separated from its mother and fed by hand.

The following rules should be observed:

Feed regularly.

Have the milk fresh and warm; always the same temperature.

Do not feed more than two quarts at a feed during the first three weeks.

All utensils must be scrupulously clean.

Give the calves a little bright clean hay, and some ground grain, after they are a few days old; only what they will clean up readily.

At ten to fifteen days, commence substituting skimmilk for whole milk—in slowly increasing amounts.

Never feed skimmilk from the separator with the foam on it.

Feed the grain dry. At first a little may be put in the milk, but the calf will derive more good from it if eaten dry.

Feed each calf separately and leave them tied up after drinking their milk for some time. Do not allow them to suck each other's ears and navels.

Give two or three teaspoons of castor oil in the milk at the first signs of scouring.

As a general preventive of scouring, it is a good practice to feed, at all times, a little dried blood meal in the milk—about a teaspoon to three quarts.

Skimmilk, if plentiful, should be fed

to the calves up to six or eight months of age, or even a year; never more than 8 or 10 lbs. to a feed. Where the milk is needed for the market, or other uses, water and calf meal may be gradually substituted for the skim-milk. Calves do better when they get some milk, but many are raised successfully with no milk at all after they are seven or eight weeks old.

R. W. LATTA,
State Agent in Dairying.

## DAIRY SHOW AT THE COLLEGE.

Friday afternoon of Farmers' Week was devoted to a Dairy Show. Classes were made for mature cows, young cows, and heifers in each of the three breeds, Holsteins, Jerseys and Guernseys. Outside dairymen were invited to bring in their cows to compare them with a selected herd of College cows. The latter were excluded from the prize winnings, which had been furnished by the banks of Las Cruces. The Show as a whole was a success, classes in Jerseys and Guernseys being especially well represented. Due to the short time of preparation, only twelve cows from outside dairies were shown, but these were splendid individuals and made competition close. Capt. Franklin, Superintendent of the El Paso Dairy, acted as judge. He characterized show yard standards as mostly "bunk," but pointed out that certain characteristics of type were indications of producing ability.

A class of four College Jersey cows was shown and every one asked to place the four according to their production, as judged by their appearance. Each of the four was chosen by some present as the largest producer, and none could place all four in their proper order. This strikingly brought out the fact that the only way to accurately judge cows is by the milk scale and Babcock tester.

Other features of the afternoon were a talk on "Fitting Cows for Show," by Mr. Meeks, Instructor in Dairying, and a display of various helps for the dairyman, including milk scale, Babcock tester, milk sheets, herd record book, sanitary milk pail, dairy bulletins, a farm steam sterilizer, barn and milk-house plans, milk fever apparatus, thermometers, and photographs with records of champion New Mexico cows.

With this year's splendid start, a better and bigger Dairy Show is planned for next year.

## FACTORS IN EGG PRODUCTION.

Three important factors enter into profitable egg production, according to H. L. Kempster of the Missouri Agricultural College: the breed, the feed, and comfortable surroundings for the hens. Each is important, but all are essential. The absence of any one of the factors will neutralize the effect of the other two.

## CLEAN UP THE ORCHARD.

If it has not been done, now is a good time to burn the dead and diseased wood in the orchard, as well as waste fruit and other litter which may harbor diseases or insect pests.

Flint and flour varieties of corn frequently produce heavier yields than dent varieties under droughty conditions. They are unpopular, however, on account of the many small ears and the difficulty of husking. When harvested by animals this difficulty is overcome.

# The Home Department

Edited by GAIL RICHIE, State Demonstrator in Home Economics.

## WATER IN THE HOME.

For years it was considered that running water was a luxury to be enjoyed only by families who live in cities. However, manufacturers have recently turned their attention quite largely to the production of private water supply equipment and to the study of farmers' water supply, making it possible for them to have private water works at a reasonable cost.

Nothing can go further towards eliminating drudgery from the farm house than the installation of a suitable water supply system. As we visit the rural homes of this State we are impressed more and more by the great waste of time and the strength expended in getting water into and out of the house. One farm house has been built about half a mile from the well and the water for home use had for nine years been brought in a barrel and placed at the bottom of a flight of six steps leading to a little platform at the back door.

Inside the kitchen on the same side of the house is a sink installed when the house was built, but which has never been used for its intended purpose. That sink shows good intentions. (We are told that the road to Hades is paved with good intentions).

The little woman who lived in that house seemed to be just about as far from having running water in her home as she was the day her home was finished.

In answer to the suggestion that the barrel be placed on the platform, a hole bored in the wall above the sink to admit a rubber hose through which the water could flow and many weary steps saved, came the response, Why, we never thought of that!" And so it is that we are such creatures of habit we go on using the same old method used by our great-grandmothers, not realizing that we could do things differently, and with greater ease, by making our brains aid in solving our problems.

In another community, practically every family hauls its supply of water from the town well, going as far as four or five miles for it. The barrels of water are left in the wagon, in the back yard, and when a bucket of water is wanted, the housewife climbs into the wagon, dips the water from the barrel into her bucket, climbs down and carries it into the house. Rather a hard way of getting water, don't you think? Absolutely unpardonable, when one thinks of how inexpensive, both in labor and money, it is to install a simple method of having that water convenient to the user.

Sometimes the housewife's time is considered to be of little value. Few however, could be compared to the man, who, upon being told how he could do a piece of work in one day that formerly required three, said: "Well, but what would I do with the other two days?"

The housewife needs time for rest and recreation, and should plan for that as well as she plans her work.

Large sums of money are not necessary for securing some device for saving time for the housewife. We know of one woman who put water into her kitchen for $3.25, by buying a $1.50 pitcher spout pump, a $1.25 sink and some pipes.

A system of running water with a bath tub gives the greatest satisfaction and saving of labor. It is not at all surprising that personal cleanliness is neglected to the detriment of health and moral tone, when one realizes how very inconvenient are bathing facilities in the average New Mexico home.

If one does not feel able at present to install a bathtub, the shower bath can be put up at little cost. A shower bath is easily constructed. It has at least one advantage over the bath tub, namely, one does not finish his bath in the same water in which he started.

Following are directions for the construction of a homemade shower bath, taken from the Weekly News Letter, U. S. Department of Agriculture:—

"A very simple, convenient, and cheap arrangement for a homemade shower bath, especially useful in homes where there are children, can be made by using a 2 or 4 gallon bucket with a hole punched in the bottom and a piece of pipe about 1 1-2 to 2 inches long soldered into the opening. A piece of rubber hose 4 to 6 feet long is attached to this, and a sprayer from the watering can, or a nozzle, placed on the end. A rope can be tied to the handle of the bucket and run through a staple driven in the wall or joist beside the window sash, making a pulley by which the bucket can be raised or lowered to suit the convenience of the person taking the shower. A hook is placed below this staple, so that the rope can be fastened to hold the bucket in place, and a clothespin used over the rubber tube to cut off the water. A large tin tub is placed underneath to stand in. The estimated cost of this convenience is about as follows:—

| | |
|---|---|
| 4-gallon tin bucket | $ .40 |
| 12 feet of rope | .15 |
| Nozzle and rubber tubing | .65 |
| Pulley | .10 |
| Piece of piping | .10 |
| Clothespins | .01 |
| White paint | .15 |
| | $1.56" |

# Boys' and Girls' Club Work

W. T. CONWAY, State Leader.

### COOPERATION OF PARENTS.

A supply of Club enrollment cards can now be had from the State Club Leader, State College, N. M.

The card has a place for the parent or guardian to sign. It is important that we know the father of each Club member, in order that the Club member may receive his mail promptly. It is equally important that we have the cooperation of the parent in order to get the best results in Club work.

### Leadership Necessary.

There is a place on each enrollment card for the signature of a Local Leader. This blank should be signed by the Local Leader, and not by some other person for him. If the Local Leader has neither the time nor the interest in the Club work for the welfare of the boys and girls of his community, then he is not the proper person for a leader of the Club.

Leadership is absolutely necessary for successful Club work. We have just as much ground for expecting a number of children to meet and organize for the study of history, geography and grammar without a teacher as we have to expect them to organize and do successful Club work without a leader.

Even with the endorsement and cooperation of the father and mother of every Club member, a special Club Leader is still a necessity for the most efficient Club work. It is the whole body of Club members whose productive power needs to be raised above the average. We are not especially interested in the single individual—only as an example—who achieves more than ordinary success in his Club project. He may be particularly favored by circumstances, yet we are willing he should receive full credit for his efforts.

### The Paid Leader.

Some splendid work has been done, even in New Mexico, by unselfish men and women who have no other object in accepting Club leadership than to help the boys and girls of their home communities to succeed in the Club work and win the honors over some other community. Such public spirit can not be too highly praised or appreciated. "May their tribe increase." Usually, these are the busiest men and women of the neighborhood.

I do not believe these unpaid, volunteer Local Leaders would lose their interest in the work or lessen their efforts to make it successful if we had paid leaders for the Club wok.

Three localities had Paid Leaders for the summer months, last year, and all of these localities developed special interest in the Club Work and succeeded far better than they possibly could have done without the help of the Paid Leaders. We are convinced that paid leaders for, at least, four months in the summer, while school is not in session, is the solution of the Club Work problem in New Mexico. We are also convinced that the $60 or $75 per month for the summer could not possibly be better invested. Not only is it money will invested to increase the child's productive power for the future, but it pays big dividends for the present. Any community with twenty to thirty boys and girls engaged in profit-bearing Club projects will be dollars and cents ahead after paying a leader for his services.

Bread-and-butter may not be the highest ideal to work to, but it is one that is easily comprehended by every one, especially in this time of high cost of living. But the net profit from the Club project is not the only remuneration. It means more and better livestock in the county; more and better tilled acres of land, and purer seed; more home-grown vegetables for our tables in the summer and more well-filled pantry shelves for the winter; better ideas of home making, and better boys and girls to enjoy these homes. Keep the boys and girls employed at some productive occupation, and we need have little fear about our future citizenship. The unemployed is the one whom mischief seeks and makes a costly citizen.

School boards, civic leagues, improvement clubs, and wide-awake individuals will do well to consider the Boys' and Girls' Club Work and the Paid Leader question.

We are going to organize our Boys' and Girls' Clubs this year during February and March. Some of the Club projects should start, in the southern half of the State, even before April first.

As the time of the State Club Leader and Assistant will be limited, the counties without county agricultural agents should put in their calls early for help in organization.

The county superintendents and teachers are the ones from whom we expect calls for help, since they are directly interested in industrial education and the help Club Work will give the movement.

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# THE NEW MEXICO FARM COURIER

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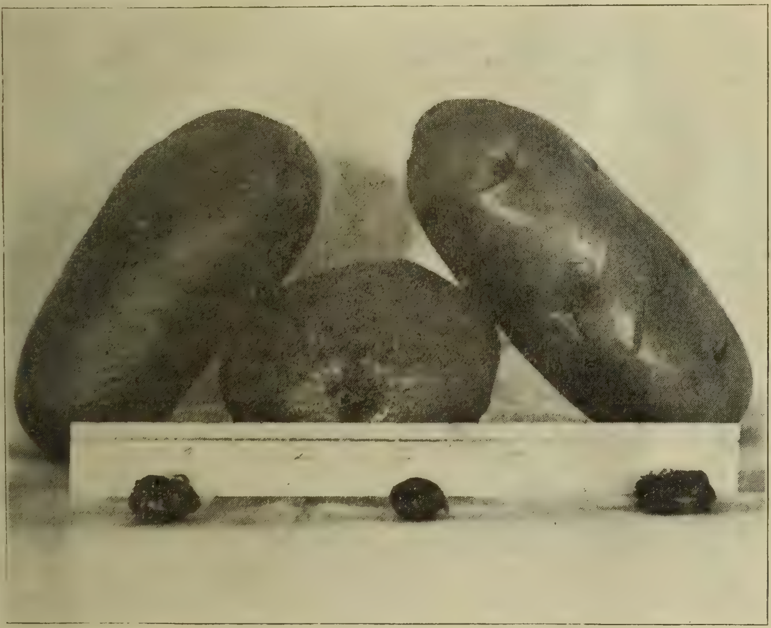

Potatoes, Wild and Cultivated.

Published Monthly by The
Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M.

In Cooperation with the U. S. Department of Agriculture.

# THE NEW MEXICO FARM COURIER

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## SERVICE.

Had you noticed the change on the cover of the last two issues of the "Courier," whereby we announce to our readers that we are to be known as the "Extension Service" instead of as the "Extension Division?" This word "Service" has been adopted as a part of our name because it typifies the purpose for which we exist. No farmer is so conceited as to think that he knows everything about agriculture or to doubt the possibility of his being a better and more successful farmer if he could secure the right kind of advice at the right time. Neither are the people in the Extension Service so conceited as to believe or try to make others believe that there is nothing unknown to them along agricultural lines. But it is quite possible and probable that they know some of the things which the farmer wants to know. It is their business to find out such things and to serve the farmers of the State by passing the information along to them.

One drawback to the effectiveness of the work is the tendency of the farmers to display a certain degree of bashfulness about asking for information. The general information distributed by such means as this paper is intended to be helpful and we trust you find it so; but we cannot expect that every farmer will find the answer to each of his specific problems simply by reading the columns of the "Courier." You may feel sometimes that a certain issue of the "Courier" must have been published for some one else, just because you fail to find in it a solution of a farm problem that is on your mind. We try to cover a variety of topics, but when the nail has so many heads it is impossible for us to hit them all at one blow, or, in fact, in many blows.

Just because you fail to stumble on to the information or advice you want does not necessarily mean that it is not to be had. If we don't have it, we can very likely get it for you, and it is yours for the asking. This does not mean that you are getting something for nothing. It means that you are getting something for your money. This work is supported by public funds and every taxpayer is entitled to a share in its benefits. It is organized for you and supported by you—why not make use of it? If you live in the northern part of the State, do not hesitate because the College is located in the southern part. The farmer who lives two miles from the College contributes no more to the support of this work and is no more entitled to its benefits than the farmer two hundred miles away.

If your farming is not going right, if you are confronted by perplexing problems, if you feel that a little advice on some point would be helpful, ask the people who are paid to do all they can for you. Ask your County Agriculturist, if you have one; if you haven't one, write to the Extension Service, State College, New Mexico, until you get one.

# Horticultural Department.

## POTATO CULTURE.

Potatoes are essentially a cool season crop, and for this reason southern growers have much better results with the early than with the late crop. The early crop makes most of its growth in the cool spring, while the late crop cannot escape much of the hot weather of late summer.

A sandy or sandy loam containing a large percentage of humus is perhaps the best soil. On large areas a crop of field peas,vetch, clover or alfalfa should be plowed under in the late fall or early winter. On the garden plot large quantities of manure may be substituted. Soil that is heavy and which packs badly will not grow good potatoes. No piece of land should be cropped more than twice in succeeding years to potatoes, as a warm climate is especially favorable to the spread of the different diseases. A one year rotation is best.

The leading varieties of early potatoes are, Irish Cobbler, Triumph, Early Six Weeks, and Early Ohio. The Irish Cobbler has but recently come into favor, but is now highly recommended by the U. S. Department of Agriculture as an early potato. It is a vigorous growing, disease resistant variety, white meated and of good quality. This variety has given better results than any other planted on the Station farm. Good, clean seed should be procured, if possible. If scab is present, soak the seed before cutting for two hours in a solution of 1 oz. of formalin to every two gallons of water, or in a solution of 1 oz. of bichloride of mercury to every 8 gallons of water.

One-ounce seed pieces should give satisfactory results, though some authorities recommend as large as two-ounce pieces. The cutting of the seed piece to one eye as commonly practiced will not give a satisfactory crop, except when planted under the very best of conditions. Four inches is perhaps the best depth to plant, but this may vary somewhat with the character of the soil. On very light soil it may be planted as deep as 6 inches, while in moderately heavy soil 2 inches would probably give better results. The rows should be not less than 36 inches apart. This gives room for cultivation and ridging, which are two of the most important factors in growing potatoes under irrgiation. The seed pieces should be placed about 15 inches apart in the row, although when closer give good results if the soil is rich and has plenty of moisture.

The ground should be thoroughly prepared before planting. Plow to a depth of at least 10 inches either in the fall or early spring, and work well afterwards. Planters are used with the best of results, but the furrow method is the most economical for the small grower, and is the one that will be described in this article.

Make the furrows about 5 inches deep with a one-horse turning plow. Place the seed in the bottom of the furrow and cover with the same plow, throwing the dirt from both sides over the seed. This will form a small ridge over the row, which later can be smoothed by harrowing. Care should be taken to drop the seed and cover as soon as possible after the furrow has been made, in order to keep the soil around the seed moist. The land should be harrowed at least once before the potatoes come up and again with a spike-tooth harrow just after the sprouts begin to show.

As soon as the plants are several inches in height cultivation should commence. Cultivate deeply. In Colorado this is frequently as deep as 10 inches, for which an especially constructed cultivator is necessary. Cultivate after each rain or irrigation and keep the ground as loose as possible. In cultivating work the soil toward the row, so that the plants will be in ridges with furrows between. This will save ditching for irrigation and give plenty of loose soil in which the tubers may form.

Irrigation is one of the most important factors in potato growing. Have an abundance of water in the soil when the seed is planted. Every irrigation tends to pack the ground, so irrigate only when the plants need water. If the soil is well supplied with water before planting time, water may not be required before the plants start to bloom. The critical period in tuber formation begins with the first bloom, as it is from this point on that the tubers make their growth. If the plants need water, apply it, but otherwise do not irrigate until the blooming period is over. Apply only a small head of water in the furrow between the rows, and let it run several hours until the soil is thoroughly moistened. Do not let the water flood the ridges. Cultivate as soon as the soil is dry enough to work readily.

In the lower and warmer valleys of the State the yield has not, as a rule, been satisfactory. This may be due, in part, to too high a temperature and too low relative humidity during the tuber forming period. The Experiment Station is carrying on a number of experiments to ascertain the causes of the small yield in the lower and warmer parts of New Mexico.

The past year the potatoes were planted on land that had been in alfalfa for a number of years. Some of the plots were fertilized and some were not. One-third of the field was not irrigated at all during the winter, one-third of it received five inches of water, and the other third received ten inches. A part of the field was summer irrigated, a part was not, and it was so arranged that part of the field received no irrigation, either during the winter or summer.

Under the above conditions it would be expected that there would be a great difference in the yields from different plots, and in fact, the yields varied considerably. The lowest was at the rate of 7,772 pounds per acre, while the greatest was 10,625 pounds per acre, or 2,853 pounds more. This would, of course, have been great enough to indicate something, if the results had been consistent, according to the treatment given; but such was not the case. Take winter irrigation, for example; the plot receiving the ten-inch irrigation produced the most, the one not irrigated the next, and the one receiving five inches did not produce as much as either of the others. In the case of the summer irrigation test, the plots receiving the two summer irrigations produced the greatest yield, the ones receiving three irrigations were next, those receiving no summer irrigations were next, and those receiving one summer irrigation gave the poorest yields of all.

The plots fertilized with stable manure yielded more than the unfertilized, but a considerable percentage of the tubers were not marketable, on account of having many sprouts on them.

It seems probable that the fairly good yield was due principally to the
There is a sadness in his unfinish-
fact that the spring was long and cool.

The potatoes were harvested about July 8. The ground was plowed, disked, harrowed and irrigated about ten days after the crop had been dug. About three weeks after harvesting and after the ground had had cabbage plants transplanted to it, several hundred volunteer potatos plants, from potatoes that had been left on the ground from the first crop, began to come up. On digging this second crop, about November 2, 1916, it was found that 930 of the volunteer plants had yielded 350 pounds of marketable potatoes—which is more per plant than the first crop, with the best of care, usually produces in the valleys of southern New Mexico.

E. H. DIVELBISS and J. W. RIGNEY.

## HOGS IN THE ORCHARD.

In the young orchard we can grow vegetables, small fruits, or such field crops as beans and corn, in sufficient quantities to pay expenses, before the trees themselves have begun to yield. In older orchards, however, the problem of making the orchard pay for its care, in years of poor markets or poor crops is very serious. Truck and field crops do not grow well because of the shade; the trees and intercrops rob each other of moisture and nourishment; the trees are so large that it is inconvenient to cultivate or do other work among them; and the crops growing between the trees will suffer during spraying, thinning, and picking seasons. At the same time. there is considerable expense connected with the maintenance of the orchard, which is a heavy drain on the resources of the individual.

In such cases pasturing seems to be the only alternative. Cattle, sheep and horses all prove more or less destructive to the trees . Hogs seem to be best fitted for such conditions. They do not bother old trees, and when properly fed, seldom injure the young ones. Besides this, the hog matures quickly and is soon ready for the market; he makes more economical use of the food than any other animal; and is exceptionally well adapted to our climatic conditions.

Many object to the presence of the hog in the orchard, and they are surely justified. He may become a pronounced nuisance when permitted to do so. A hog-infested orchard is more disgusting than a bug-infested bed. His presence in the orchard is objectionable especially at thinning and picking times. This condition may be prevented by (1) not overstocking; (2) fencing off the orchard into several pastures; (3) having at least one pasture outside of the orchard in which the hogs may run while the trees are heavy with fruit. These measures will prevent the hogs from harvesting a part of the crop. They will pemit one to work in comfort while the hogs are off on another part of the place. They will help one to take proper care of his trees, and at the same time realize a dividend during poor seasons.

It is well to consider the crops to be used in this connection. Our Experiment Station men remind us that a green crop should be plowed under every few years in order to get the best results from our orchards. Continued clean culture is a thing of the past. We are cautioned against cutting these crops for hay; however, we may pasture them off and get very good results. Alfalfa and sweet clover are the crops most commonly recommended for the orchard. Sweet clover, from the standpoint of the Station man, is almost ideal. The life of the plant is two years. The first year it can be pastured and the second year the crop turned under, giving us a good supply of humus. A nurse crop will greatly increase the amount of pasture to be obtained the first year. If it is pastured the second year the land can be plowed at the end of the season with results almost as good. With sweet clover, however, there are several factors that do not work out as well in practice as in theory. In the first place, it gives but little pasture the first season. In the second place, it is a biennial and if so closely pastured that it grows no seed, has to be sown every other year. These two factors combined make a light pasture every alternate year, which with the cost of reseeding increases the cost of maintenance.

Alfalfa also has its disadvantages: (1) the farmer is inclined to cut it for hay and in this way the best results are not obtained; (2) the roots are heavy and hard to cut with the plow; (3) it is a perennial and the farmer is inclined to let it grow too long in the orchard before plowing. Along with other harmful results or lack of cultivation, this tends to bring the roots of the trees to the surface of the ground. If the roots are planted deep and kept down through the early life of the tree, this trouble should not be serious. All irrigations should be heavy, so that the water will soak far into the soil. This will help to draw the roots away from the surface. Alfalfa gives a rank, heavy growth and will afford good pasture for a number of years.

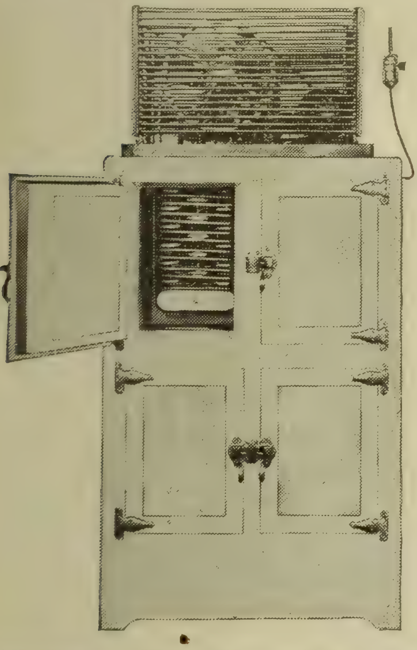
Either of these crops will prove helpful to the trees and when handled as suggested above will aid materially in making the orchard a profitable investment. E. H. DIVELBISS,
Chaves County Agriculturist.

## DRY-FARM SEEDS FOR SALE

The United States Field Station, Tucumcari, New Mexico, has on hand about a ton of dwarf milo, 200 pounds of dwarf kafir, 100 pounds of white milo, 100 pounds of feterita, and 60 pounds of dwarf feterita seed for sale at 4 cents a pound; also 375 pounds of Mexican White June corn at 5 cents a pound. It also has small quantities of seed of a comparatively large number of other dry-farm crops for sale at reasonable prices, including cowpeas, millets and beans. These prices are F. O. B. Tucumcari.

# Engineering Extension Work.

## FARM REFRIGERATION UNITS.



The question of refrigeration on farms and ranches is a difficult one. Ice is, in general, expensive in the **Southwest**, and in addition the dis- ranches. There has recently been developed a small refrigerating unit that can be placed in an ordinary frigerator as shown in the cut. Its tance from the ice plant is so great that its use is prohibitive on many operation is as follows: Sulphur steam, which by the way is harmless, is cold. It is sucked into the compressor shown on the top of the refrigerator and compressed to a higher pressure and its temperature raised to almost that of the room. It is then discharged into the coil of pipes surrounding the apparatus, where radiation aided by a fan cools it to a liquid. The liquid coming out of the bottom of the condenser is fed automatically into the coil inside the refrigerator by means of an expansion valve. This expansion of the liquid to a gas absorbs heat from the articles to be cooled. The expansion coils are shown in the open doorway. In order to have ice for table purposes, etc., a small pan is provided in which water may be frozen (shown just below the cooling coils). This machine is put out at the present time by the Isko Company, Detroit, Michigan, with electric motor drive to be used in connection with storage batteries and gas engine drive farm lighting plants. The machine runs intermittently, it being controlled by a thermostat which keeps the temperature of the refrigerator usually within a range of one or two degrees, except under unusual conditions, such as the opening of doors a great deal. This temperature can be maintained at any given point that you wish. The electric current consumption varies with the temperature of the room and how well the refrigerator is built in which the machine is installed. A fair average is one kilowatt per day. The weight of the unit is about two hundred and thirty pounds.

There is no reason why this machine could not be attached to a small gas engine drive for ranches that do not have farm electric lighting outfits. Some claims made by the manufacturers of this machine are as follows: silent in operation, absolutely safe, temperature colder and more uniform than any amount of ice can make it, pure, clean ice for table use, always ready, consumes very little electricity, absolutely sanitary, no filthy drainage or dirt, dry, pure air, no trouble to take care of, perishable foods preserved indefinitely by dry air.

It might be noted that this machine is highly praised by Government experts. It is hoped in the near future to have an example of this unit at the State College Engineering Laboratories, which will be demonstrated to any one who is interested.

A. F. BARNES,
Dean of Engineering.

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## ABSTRACT OF "ARC WELDING FOR THE CENTRAL STATION"

(By R. W. Goddard, Professor of Electrical Engineering, N. M. C. A. & M. A., before The New Mexico Electrical Association.)

Welding is defined as the intimate and permanent union of two pieces of material. Different processes do this in various ways, examples of which are forge welding, oxy-acetylene, thermit, electrical resistance, electrical percussion and electric arc welding. The electric arc process is divided into two general methods, the carbon electrode and the metal electrode, which differ only slightly in method of procedure.

Electric arc welding is especially interesting to the central station man, as it offers an exceedingly valuable tool at a negligible expense. The use of this process is not limited to the joining of two pieces together, but includes the cutting away of superfluous metal, and the building up of worn metal surfaces. Examples of arc welding are illustrated by the repair of broken castings, cracked mud drums and the insertion of boiler flues and stay bolts. Cutting of boiler plate, tanks, rusted pipes, and the dismantling of old machinery are easily accomplished by the electric arc. New material is also quickly filled into holes burned in grate bars, or worn from the wearing surfaces of machinery. Gear teeth can be replaced and lugs for bolt attachments built up.

The extra equipment required of a central station to do this work is negligible. An excisor can be used as a source of power. Electrode holders and a protective hood for the operator are all that it is necessary to supply. Because of the ultra violet rays of the arc, the operator's face and eyes have to be protected by a hood. This is a cylinder of metal or fibre which fits over the head and rests on the shoulders. A window in the front of colored glasses allows the operator to see the work without being blinded by the intense light of the arc. Gloves protect the hands.

In operation the work to be welded is connected to the positive terminal of the generator while the carbon or metal electrode holder is attached to the negative. An arc is struck between the electrode and the work, the heat of which melts the material and causes it to run together and fuse. More metal can be added by melting a small rod in the arc and allowing it to run into the work, fusing with it into a solid mass. The energy required varies from 50 to 600 amperes at a potential of approximately 15 volts.

Theoretically, all metals may be welded, but difficulty is found in practice with aluminum and zinc. These may by special treatment be welded, however. Joints welded by this process have by test proven stronger than welds by the fire and forge process. Examples are not lacking where welds by this process have proven stronger than the materials welded.

# Department of Animal Husbandry

## A POULTRY TALE.

### A Buff Orpington Record.

By Dr. John A. M. Ziegler.

It is remarkable how many chickens get into the ministry. I am a preacher, myself, and speak advisedly.

I have an interesting flock of Buff Orpingtons—22 pullets, and four hens. Two of the hens are grandmothers, who are pensioned for life, for the good that they have done.

I began with three pullets in the spring of 1914, from two different strains. They were kept in a Philo coop, 3 by 6 feet. Their records were so interesting that I was advised to cultivate them. One of them laid fourteen eggs in eighteen consecutive days, and twenty-three in thirty days. The second one recorded fifteen eggs in nineteen days, and the third, fifteen in eighteen days.

The egg production of this little flock is worthy of publicity. They were hatched in April, and began laying in November.

They laid twenty-six dozen eggs in December.

This is the record for January: The first week, 88 eggs; the second week, 98; the third, 101; the last ten days in January, 171 eggs—totaling 458 eggs for January, and 770 for December and January.

They are housed in an 8 by 16 open-front building, protected by one-inch mesh wire screen to keep out the sparrows. I feed in the house. The yard is 20 by 30 feet.

I follow no definite formula of feed by weight, preferring to vary the proportions according to the conduct of the birds. I feed wheat, oats, kafir and shelled corn. Bran is before them constantly in hoppers, and leafy alfalfa in the scratching yard. At present, they get a little sprouted oats at noon. They are supplied with plenty of shell and grit, and a limited amount of beef scrap. No bone meal has ever been fed. They have never been annoyed with vermin. Their dust bath consists of fine coal ashes.

One thing I almost forgot; there is plenty of clean, fresh water before them at all times. The feed bill for the two months was not to exceed five dollars.

Belen, New Mexico.

## WATER FOR THE HENS.

Few people realize the importance of plenty of clean, fresh water for the hens. It is not often that the chickens go all day without something to eat, but it is a fact that many flocks are woefully neglected when it comes to water—clean water.

To emphasize the need of water, consider the amount of water in an egg. Sixty-five per cent of the whole egg is water. In every dozen eggs gathered there is about sixteen ounces of water. In a recent experiment it was found that a six-pound hen consumed about five ounces of water in a day.

Aside from the real necessity of water for egg production, the body of the hen needs water. Approximately sixty to sixty-five per cent of the body weight of the hen is water. Experimentally it has been determined that when a hen loses ten per cent of her body weight from thirst she can not survive. However, the hen will lose all of the fat and nearly fifty per cent of the protein before death occurs from starvation. This indicates that for body maintenance, as well as for egg production, water is one of the most important adjuncts to successful poultry keeping.

If the fact is remembered that each dozen of eggs sold at forty cents means that the water in those eggs is sold for twenty-five cents per pound, it may be an incentive to give the hens all the clean, fresh water they need. It should be made a rule to keep available at least one quart of water for every three hens every day.

R. B. THOMPSON,
Poultryman, New Mexico Experiment Station.

## GIVE THE COW A CHANCE.

A great many cows due to freshen this spring are in poor condition now. This condition is quite prevalent, caused by the unprecedented high prices of feeds. Allowing a cow to calve when in poor physical condition is very poor economy. Many experienced dairymen claim that the grain fed to a good dairy cow when dry is the most profitable feed given the cow. Certain it is that a cow in a low state of vitality cannot produce a strong calf nor milk profitably during the ensuing lactation period.

The cow should be dry six to eight weeks, and during that time should be fed liberally. For several days before and one or two days after calving, little grain should be fed, and especial attention given to keeping her digestive tract in a laxative condition. Bran and oats are much better feeds at this time than corn. Silage or roots are valuable helps in this matter.

Put the cow in a clean, dry, roomy enclosure when about to calve, where she can have plenty of water which is not too cold and where she will not be disturbed.

For a day or two after calving do not milk the udder out clean, as this often brings on milk fever in heavy producers. Take the calf away as soon as the udder is nearly normal, and gradually get the cow on full feed.

R. W. LATTA,
State Agent in Dairying.

# Department of Agronomy.

## TEST—DON'T GUESS.

There are about 800 kernels on the average ear of corn, and one poor seed ear means 800 weak, dead, or mouldy kernels which, if planted, means missing hills and weak stock, producing little or nothing. We cannot afford to take any chances. No man can tell good seed corn by looking at it. It is true that an inspection of the outward appearance enables one to fix a type which is as productive of as good results as is the same process of selection when employed in selecting individuals in the matter of live stock breeding. The matter of whether or not the particular ear of corn will live up to your expectations can only be accurately determined by putting its germination qualities to test. Fortunately, this test can be made without the corresponding risk of loss involved in live stock breeding. By testing in advance, we can be absolutely certain that this particular element of risk has been eliminated.

Our farming successes are directly in proportion to the number of such risks we are able to eliminate.

It appears evident that the importance of eliminating all possible risk is greater under our conditions than in average farming practices. Delays caused by re-seeding often mean a serious loss and sometimes a total failure. Why then guess about the germinating qualities of the seed?

Our annual corn crop is susceptible to decided improvement from several points of view. We must depend on one or more of our several better varieties of known growing season. It pays to use home-grown seed in preference to making yearly importations of seed from other districts, except on an experimental basis. Careful seed selection in the field, reinforced by an elimination of all undesirable seed, will result in material improvement. There is nothing problematical about this matter. Striking examples of its success will follow any careful work along this line.

There are several methods of testing corn, some of which are easier than others. The sawdust box and the "Rag Doll" are equally desirable. The choice of the one or the other largely depends on the scale upon which one operates.

If we appreciate the thousands of dollars that can be saved next season by carrying on this simple test, we will all unite in adopting for the next three months this slogan, TEST—DON'T GUESS.

ROLAND HARWELL,
Torrance County Agricultural Agent.

## CORN GROWING.

### Getting Moisture Into the Soil for Good Corn Yields—Preparing the Landf or Planting.

Corn gets what it takes from the soil in liquid form and, therefore, there must be moisture to spare. The actual number of inches of rainfall on a given field, however, is not alone a safe guide, especially in droughty regions, as much depends on the amount of water that is stored at different seasons; the amount that is wasted in runoff, evaporation, or seepage; and, finally, the amount actually made available to the root system of the corn. It has been estimated that a rainfall of 10 inches will be sufficient to produce a 50-bushel yield of corn, provided none of it escaped except through the plants. Even weeds, however, can not take every bit of moisture and it is impossible under field conditions to prevent losses.

Corn specialists of the Bureau of Plant Industry, United States Department of Agriculture, in Farmers' Bulletin 773, therefore, caution corn growers in droughty regions (1) to plan their cultural operations so as to have the soil surface in best condition to take in water when rains are most likely to occur; (2) so to handle the soil that deep penetration may be secured; and (3) so to cultivate the soil as to store up heat and at the same time prevent excessive loss of soil water through capillary action and surface evaporation.

The ease with which soils take in, retain, or lose moisture depends mostly upon their texture, physical condition, and surface slope, they point out. It is to the extent that cultivation can modify these factors that more water can be made available to the growing crop.

There are loose, open soils through which water pours as through a sieve, and there are tight, gumbo soils which swell when the surface is moistened and become practically waterproof.

Sandy soils take in water more readily than heavier soils; hence, less precaution is necessary to prevent runoff.

The greatest loss may be from seepage to depths beyond the plant roots. Manure and decaying vegetable matter check seepage and improve soils of this character . As corn roots penetrate 3 to even 6 feet deep, larger yields of corn are frequently raised on sandy soils in semiarid regions than on surrounding hard soils.

The heavy, hard, or close-textured soils require the most cultivation to keep them in proper condition so as to prevent moisture loss from runoff and evaporation. Unless the surface is kept broken or somewhat rough, but little water will be absorbed during hard rains and a greater loss will occur from evaporation. To maintain the surface soil in proper condition, cultivation is necessary soon after heavy rains. If cultivation is too frequent, however, so that the surface becomes too fine, moisture cannot penetrate readily and blowing of the soil is likely to occur.

It is of great importance that moisture be made to penetrate several feet below the surface. In most soils this penetration is slow, and during hot, dry weather surface evaporation is great. Surface moisture can not penetrate a frozen soil. Summer and fall precipitation has time to penetrate several feet deep and be in a position to support a growing crop the next summer. While it is seldom advisable to waste a whole summer in storing moisture for a corn crop the next year, it is advisable to begin storing soil moisture as soon as the preceding crop will permit. The ideal seed bed for a good corn crop in semiarid regions is one with a loose, coarse surface and a subsoil well filled with moisture to a depth of several feet.

### Preparing Land for Planting.

As lack of moisture, more than anything else, limits corn yields in droughty regions, the first question regulating each operation should be "What will be its effect upon the soil moisture supply?"

The authorities state that while summer fallow frequently results in greater yields of corn, the practice has not proved practicable. They, therefore, advise beginning the preparation of land to prevent loss of moisture and to put the surface into condition to receive moisture as soon as the preceding crop will permit. Cultivation after the removal of the preceding crop is profitable if it stops or prevents a growth of weeds. But if the growing season is past, dead weeds may catch more snow than would be caught by a cultivated surface.

Fall disking or listing, is usually beneficial in putting the land in better condition to prevent the soil from blowing, to hold the snow, and to prevent runoff. The penetration of moisture is slow, and when rains occur evaporation is rapid from hard soil surfaces, such as usually follow the growing of small grain. The chances of storing moisture are increased by loosening such compact surfaces as early as possible. Whether plowing is necessary, however, depends very much upon the type of soil. Most heavy clay soils are best put in proper condition by plowing. Sandy or light loam soils should not be plowed in the fall and left bare during the winter in regions where soil blowing is likely to occur. If, however, it becomes advisable to plow such soils in the fall, blowing of the plowed area may be checked by top-dressing with barnyard manure.

Deep plowing should always be done in the fall or very early in the spring, to allow more moisture to penetrate and the soil to settle before planting time.

On sloping land the plowing, listing, planting, and cultivating should follow on a level along the slopes or around the hills.

The moisture saved makes this a profitable practice, and very often the prevention of run-off is necessary to avoid erosion, with the loss of the richest portions of the soil.

Alfalfa land to be prepared for corn should be fallowed one year or plowed early the previous summer.

Growing plants draw large quantities of water from the soil and subsoil. All growth of weeds and volunteer grain on land to be planted to corn should be prevented.

Deep plowing and subsoiling should be done in the fall rather than at corn-planting time. Soil put in the right condition to take in moisture to a considerable depth is also open to the air and dries out rapidly. If necessary to plow in the spring for corn, the plowing should be done early and should not be deep and the ground should be packed immediately. Plowing under several inches of snow is an effective and sometimes a practicable way of getting moisture into the ground.

# The Home Department

Edited by Gail Richie, State Demonstrator in Home Economics.

## CLEAN UP AND PLANT FLOWERS

The average New Mexico ranch home usually presents a very untidy and forlorn appearance. Why not tidy up the premises a bit this spring by removing the accumulation of tin cans from the back yard and other eyesores about the place?

If possible, plant a vine at the side of your door. A nickel's worth of morning glory seeds plus a little care and perseverance have been known to work wonders in former barren spots.

The beautifying of the home grounds was a subject discussed at the Home Makers' Conference at State College in January and the following notes from the talks of experienced flower growers are given here in the hope that they may be found valuable to other lovers of flowers.

## THE GROWING OF ROSES.

(By Mr. G. A. Martin, of El Paso.)

In the growing of roses, the main thing to do is to have the proper soil, that is, a thick, heavy soil. Roses like plenty to eat and drink. They will not thrive in sandy soil, and in fact, in most cases will die if planted in sandy soil. They should also have much water. It is not necessary to drain roses as many people state.

In making a bed for roses, it is well to dig out a hole and fill it with good heavy adobe soil. Put the rows of roses 2 1-2 feet apart, dig down about two feet and fill with the heavy adobe soil. The latter part of February is the best time to plant. About all a rose bush needs the first year is plenty of water. It is best to get roses that are somewhat acclimated, for the intense heat of our summer sun is very hard on rose bushes from the North or East. The best results were obtained from plants from a nursery in southern California, because the climate there and here is somewhat similar. The best feed for roses is barnyard manure (fresh manure is best), on the bed to a depth of 3 or 4 inches, just as soon as frost comes on. Wet down a number of times. The substance will then soak out of this manure and around the roots of the rose bushes. If roses lack nourishment during the summer, bone meal is often scattered around the plant for a foot or two. This gives quicker results than the manure, but is more expensive and very seldom necessary. The rose bed ought to be cultivated and the dirt around the bushes thoroughly dug up at least once a week. Plow them just the same as corn. Plow quite close to the rose bush.

There are very few insects that cannot be sprayed off from roses. Little green flies that frequently infest the roses can be sprayed off the bushes with water and a fine spray nozzle.

The following is a list of roses that can be grown quite successfully in this climate:—

Madame Edouard Herriott, very delicate salmon pink color. Has a very beautiful bud that is about 2 1-2 inches long.

Mrs. A. R. Wadell, has a deep apricot color.

Mrs. Arran Ward.

Winnie Davis, has a white silvery pink flower.

Old Gold, has a rich orange, more or less of a coppery red tinted flower.

Gen. MacArthur.

Double Pink Killarney.

Wm. Shinn.

Madame Cochen.

### Climbing Roses.

Dorothy Perkins, has a pink flower, almost white.

Glome de Rosas.

Climbing Caesarine.

Lady Gay.

Golden Ophir.

Marshall Neil.

It is best to plant the roses on either the south or east side of the house. Due to the high winds we have here, it is a good plan to have a wind-break. Castor beans planted along the fence make an excellent wind-break. As rose roots grow out instead of down, it is best to have the bed wide instead of deep. Keep mulch of manure and straw on the bed. This should be two or three inches deep. This mulch should be renewed often enough always to be at least that deep. Roses should not be cut back a great deal.

## HOW TO GROW FINE DAHLIAS.

(By Mr. John L. Dyer.)

### Dahlia Native of This Section.

To many it is not known that the dahlia is a native of this part of the country. Mr. Dyer told his audience that dahlias were originally discovered in Central America, Mexico and southern Arizona. They like moist valleys, as a rule, he said, but when properly irrigated they are perfectly adapted to this climate. Mr. Dyer has proved this with his beautiful dahlia bed at his home on Montana Street, El Paso; he proved it with the exhibit of dahlias which he and Mrs. Dyer had at the Soils Products Exposition in El Paso in October.

The so-called cactus dahlia was propagated in Mexico. It is one of the most popular of the dahlia family at present.

After relating the history of the dahlia, Mr. Dyer told how to plant them and grow them.

### How to Prepare the Bed.

"Dig a bed two feet deep," he said, "because most of our soil is inclined to adobe, and pile it out in the yard. Dahlias like loose soil. Then put six inches of crushed stone, such as is used in street paving, in the bottom of the bed. On top of this, sift about two inches of coarse sand. This gives drainage necessary for dahlias. Too much water in heavy soil will rot the dahlia tubers. Then fill in the bed with equal proportions of sifted anthracite cinders, soil and well rotted manure (cow manure preferred). To do this, secure a wire screen with about a quarter-inch mesh. Sift the anthracite ashes through this, using the cinders. Then throw in a shovelful of cinders, a shovelful of dirt and a shovelful of rotted manure. Do this in the fall and then spade up the earth-cinder-manure mixture about every two weeks during the winter, so that it will become thoroughly mixed. The ashes give the soil the easy consistency that dahlias like. Also put on top bone meal, working it in during the winter. Use two coal buckets to a bed 4x18 feet.

### Planting and Care.

"In the spring do not plant the dahlia bulbs too early. The 10th or 15th of April is early enough, for if they are planted sooner, the spring winds blow the young plants about and damage them. Planted the middle of April, they are out of the ground and will be well on their way by the middle of May. When a bulb begins to send up sprouts, pick out the best one, then cut off all the rest with a sharp knife below the surface of the soil. Pinch the bud out of the center of the one you leave when about 5 inches high. For a time, the plant will appear to be doing nothing. Never mind that; it is getting a good root growth. Pretty soon you will perceive buds coming out from the sides. The result is that instead of one tall stalk, you have several not so tall and all will be good bloomers. It is the blossoms, not the stalk, that you want, anyhow.

"Secure some canes about four feet long and put these in the ground on each side of each plant. As the plants grow, tie them to your canes with raffia (secured from any florist); this keeps the wind from blowing them over. You will begin to get blossoms the first of July and they will continue to bloom until the middle of October—three and a half months of beautiful flowers.

### Preserving the Tubers.

"After the first frost in the fall, cut off the dahlia stalks about six inches above the ground. Then let them alone for two or three weeks, then dig the tubers some morning, leaving all the tubers to adhere to the old stalk. Carefully wash them and leave them in the sun until in the afternoon, so that they are dried thoroughly. Then carefully wrap each bunch of tubers adhering to each stalk, in a newspaper, and put them in a barrel, the stalks down; for it still has some sap in it and the water will then run out, instead of flowing down into the tubers. Put the barrels in the basement and forget them until time to plant them again in the spring. They will probably be full of shoots and sprouts; just break them off and throw them away. Others will come out when they are planted."

(An article on planting methods will appear next month.)

# Boys' and Girls' Club Work

W. T. Conway, State Leader.

## CLUB WORK DEVELOPS INTEREST IN FARM.

Students of rural social conditions have pointed out that one of the surest ways to keep the boy on the farm and make the girl satisfied with the farm home is to give them a direct, tangible interest—a real partnership—in the business and affairs of the farm and home. The boy who feels duty-bound to work on the farm every day when not in school and who receives no recompense whatever for his work other than the care and support which are his birthright, should not be expected to develop a lasting enthusiasm for the work.

But give the boy a little piece of land, a pen of chickens, or a purebred pig, with which he may work and from which he may keep the returns, and you appeal to the inherent American instinct in him which quickens his ideas and also strengthens his heart.

Club work is an organized agency that not only makes possible standards of achievements, but one that recognizes youth's achievement in a dignified way, takes drudgery out of farm and home work and makes young people proud to be members of America's army of peaceful arts and industry.

## HOW I MADE MY GARDEN

I am stating here how I managed my gardening and canning. I joined the Garden Club about the middle of April and have found it worth while working for the prize, and above all else have found it has certainly helped out on our family grocery bill.

I found it rather trying when I was first planting my garden. I have a little hand plow which I cultivated my garden with after a rain, or rather, when the ground was baked.

I sold $4.00 worth of beans and all together I figured I had sold about twenty dollars' worth of vegetables besides what we had used. From my account book I found that in three months I had sold and used about forty dollars' worth of vegetables.

About the middle of August I commenced canning beans. I have canned twenty quarts of beans and two cans of pickles and expect to can some beets, carrots and some cabbage. Besides what I have canned, mother has canned thirty quarts of beans, five gallons of sweet and sour pickles and seven gallons of dill pickles.

I am going to take a can of each vegetable mentioned above to the County Fair. I have two big yellow pumpkins which I expect to get a prize for at the fair. So I close my story by saying that I find it worth while working for a prize, especially in the Boys' and Girls' Club Work, and I certainly hope to be a member next year.

**Statement.**

| | |
|---|---|
| Size of plat | 60 sq. rd. |
| Value of crop | $46.00 |
| Cost of production | 7.15 |
| Net profit | $38.85 |

RUSSELL JENKINS,
Raton, Colfax Co., N. M.

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# THE NEW MEXICO FARM COURIER

VOL. V. APRIL, 1917. NO. 5

Dairy Cows on Sudan Grass Pasture at the New Mexico Experiment Station.

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## MANURE PILE HARBORS FLIES

The preferred food of house-fly larvae is horse manure, in which they breed in untold numbers. More than one thousand house flies will issue from one pound of manure. Flies are sure to swarm from unprotected manure piles.

Early spring is the time to begin operations against the fly and one of the first steps is to properly dispose of the manure piles that have accumulated during winter. In small towns and rural districts it is quite easy to dispose of such piles. In large cities the problem is more difficult.

Since horse manure is a valuable fertilizer it may be disposed of to advantage on the garden, lawn or field. Application should be made without delay. In this way the breeding place of flies can be eliminated and crops can be benefited. A. H. Hollinger of the University of Missouri College of Agriculture recommends that a fly-tight bin or pit be used for the temporary disposal of manure. Manure should not accumulate even in such containers. It should be removed and scattered on the field at least every two days, so that the larvae, if present, will not have time to mature.

In case manure piles do accumulate through neglect, there are still two methods to follow which will prove effective. The first is the treatment of manure piles with certain chemicals, either dry or in water. The second way is by the use of maggot traps, the efficiency of which is based upon the strong tendency of the larvae to migrate after maturity and before pupation.

Powdered hellebore is a very effective larvicide, and is especially recommended to be used at the rate of about one pound to twenty gallons of water. This amount should be applied to about fifteen bushels of manure, the approximate amount obtained from one horse per week. No injurious action on the fertilizing value of the manure follows such application, for the hellebore, being an organic product, will slowly decompose. Consequently it will not produce a cumulative injurious effect upon plant growth such as certain inorganic products might. The cost of such treatment will average about ten cents a week for each horse.

Borax applied to manure at the rate of one and one-quarter pounds for each fifteen bushels of horse manure will also prove effective, and costs about seven cents per week per horse. This manure when applied to the land at the rate of about fifteen tons per acre will not injure plant development. However, borax being an inorganic compound, decomposition of this chemical does not result, and the cumulative effect of this substance upon the plant growth may become injurious if amounts of borax in excess of that recommended above are used. Hellebore should be used instead of borax for treating all manure intended for fertilizing purposes.

Instead of treating manure chemically, it is possible by means of a simple arrangement called a "maggot trap" to destroy at least 99 per cent of all maggots in any manure pile. These traps may be made of almost any size and to suit almost any conditions. They will meet the problems of both rural and urban surroundings. In general, maggot traps are so built that the larvae will migrate and drop through openings in the bottom of the manure pile into water underneath. This is a very practical method and will be discussed more thoroughly at a later date.

# Horticultural Department.

## NATIVE BEANS.

Nineteen hundred and sixteen was a banner year in the production of beans in New Mexico. According to the Agricultural Crop Report for December, 1916, New Mexico produced 22,500,000 pounds of beans, valued at $1,488,000. About 90 per cent to 95 per cent of the crop was of the New Mexico Pinto variety. Only three other States produced a larger yield. The New Mexico Pinto bean has been raised in the State for many years, but only in recent years has it been grown on a large enough scale to export. It is well adapted to both the irrigated and the dry-farming sections, and will mature in eighty to ninety days after planting. It is a little more nutritious than the navy bean, and very palatable when properly cooked.

A loam to a sandy loam is the best soil for the bean, though with proper management, good crops can be secured from the adobe or tight soils.

Under irrigation there are two common methods of planting this crop: the new, or dry, method, and the native, or wet, method. The so-called new, or dry, method consists first in thoroughly plowing, harrowing, and preparing the seed bed. The beans are then drilled or planted with a corn planter, or they may be listed or plowed in. As soon as the beans are planted the land is irrigated—usually flooded—to produce germination. The rows may be from two to three feet apart. One to three seeds may be planted every six to twelve inches in the row. As a rule, it will take from 25 to 35 pounds of seed per acre. By this method the seed should not be planted over three inches in depth; preferably one to two inches. If planted deeper, because of the water's packing and hardening the soil, a large majority of the plants will not come through and the stand will be poor.

The native or wet method, which is practiced extensively by the native farmers, consists in first preparing the land for irrigation, so that moisture can be added for the germination of the seed. As soon as the soil is dry enough so that the plow will scour, the land is plowed from three to four inches in depth. The beans are dropped in the furrow and are covered as the land is being plowed. A depth of three to four inches is best, though good germination may be had from a five-inch depth. Immediately after the seed is planted, the land should be gone over with an Acme harrow. This tends to pack the soil somewhat and at the same time leaves a soil mulch which will help materially in reducing evaporation. As a rule, from one to three irrigations will be required to mature the crop. In most cases the dry method will require more irrigations than the wet method, and it will also take more cultivations and more hoeing, as more weeds come up.

Under dry farming, wherever the soil and climatic conditions permit, the land should be plowed in the fall from six to ten inches deep. It can be left in this condition until spring, when it can be disked and properly prepared for the seed bed. If conditions are not favorable for plowing in the fall the land should be plowed as early as possible in the spring, and thoroughly prepared for the crop. The thing that should be kept in mind is the conservation of the winter and spring moisture. The plowed land will conserve such moisture better than the unplowed. It should be borne in mind that the moisture in the soil is the limiting factor in the production of dry-land crops.

If the soil is not sufficiently moist at the time of planting, the farmer must depend upon subsequent rain to produce the germination of the seed. The planting of the beans may be done with a bean or corn planter, or they may be listed or plowed in. The best results are obtained, as a rule, by planting the seed three to four inches deep. If planted shallower, the soil is liable to dry too much and the proper germination of the seed thereby prevented.

Under dry farming from 12 to 20 pounds of seed are planted per acre, at a distance varying from 36 to 40 inches between the rows and about 12 inches in the row. The amount of labor required to grow a crop of beans is usually less under dry farming that under irrigation, as there is no irrigation of the land or crop, and consequently there are fewer weeds to cultivate or hoe out. Under dry farming the principal thing to keep in mind is the conservation of as much moisture as possible, and this can best be done by thoroughly cultivating the crop. As a rule, two to four cultivations will be needed, which can be properly given by the use of a bean cultivator or the one-horse Planet Junior cultivator.

The time of planting is an important consideration. Under irrigation, where the water can be had at any time, beans can be planted just as soon as the danger of frost is over. Under dry-farming conditions, if the winter and spring moisture has not been conserved and the soil is too dry, the planting may have to be delayed until the beginning of the rainy season. The planting may be done as late as the middle of July in most of the dry-farming districts. By knowing about when the first killing frost usually comes, and that the crop can be matured in from 80 to 90 days, one can readily ascertain about how late he can plant the beans in his particular locality. However, wherever conditions are favorable, planting early is advised. Aside from maturing the crop earlier, the damage done by the bean beetle and other pests may be materially reduced.

Beans may be harvested by hand pulling, by plowing them out or by the use of the bean harvester. The last mentioned method is the best and is the principal one in the districts where the crop is grown most extensively. The harvesting should be done when a majority of the pods are ripe. Late and excessive rains or too much irrigation may cause the period of growth to be too long; and in such cases the ripening is usually not uniform. After being placed in small piles or in long narrow stacks, the beans are hauled either to the threshing machine or to the threshing floor.

Beans are flailed, tramped out or threshed with a threshing machine. The last mentioned is replacing the old methods. The yield varies considerably; under irrigation and good management, an average of from 800 to 1200 pounds should be secured. Under dry-farming conditions, where the moisture factor in more uncertain, the average is usually from 400 to 500 pounds an acre. However, it is not an uncommon thing to find some farmers averaging from 800 to 1200 pounds per acre.

One of the most important factors in agriculture is good seed. If good seed is planted, other factors being favorable, good crops will be secured. If mixed seed is planted, mixed crops should be expected. In the past the bean growers of the State have not been very particular in regard to the selection of seed. Now that the New Mexico Pinto bean is competing in the markets, it must be true to type. To accomplish this the bean growers must select good seed of the proper type. Efforts should be made to eliminate the variations which do not come up to the best standard of the New Mexico Pinto bean. The planting of seed without paying attention to careful selection should be discouraged. In all cases, good plump beans of uniform size and color of the type should be planted. The New Mexico Pinto bean is peculiarly marked. The ground color is cream, with a slightly pinkish tinge, irregularly blotched with olive drab to greenish etchings.

More New Mexico Pinto beans should be eaten. It is strange, but nevertheless true, that very few restaurants or hotels have beans on their bills of fare. If these establishments could be induced to place them on their bills of fare, the consumption of this vegetable would, no doubt, be materially increased.

Bulletin No. 105, on Bean Culture, is now on the press, and copies of the same can be secured, if desired, by addressing the New Mexico Agricultural Experiment Station, State College, N. M.

FABIAN GARCIA.

## EFFICIENCY OF SPRAYERS.

For some time many of the pear growers have been wondering if good, satisfactory spraying could be done with a hand sprayer. This question has arisen from the fact that the large power sprayers are very expensive and the small growers have felt that they could not afford to invest such a large amount of money in a large sprayer to spray an orchard of from one to five acres.

Last year the Experiment Station carried on a preliminary investigation to get information as to the difference in the efficiencies of the hand and power sprayers; the test being run on an eight-year-old Bartlet pear orchard.

In the first block 50 trees were sprayed with a power sprayer at 200 pounds pressure, using powdered arsenate of lead at the rate of 2 pounds to 50 gallons of water. These trees were sprayed on May 5, June 18 and July 10. From August 3d to 14th, 5,445 pears were picked, of which 5,168, or 94.91 per cent were sound. The total windfalls from these trees were 1,866, of which 1,817, or 97.37 per cent, were sound. The total yield was 7,311 pears, 6,985, or 95.54 per cent, being sound.

Another block of 25 trees was sprayed on May 5, June 18, and July 10 with a hand sprayer, at 100 pounds pressure, using powdered arsenate of lead. In both of these blocks the calyx spray was omitted. From August 3d to 14th, 3,239 pears were picked, of which 2,955, or 91.23 per cent, were sound. This gives 3.68 per cent of the picked fruit in favor of the power sprayer. There were 1,744 windfalls, 1,705 of which, or 97.76 per cent, were sound. The total yield was 4,983, of which 4,660, or 93.52 per cent, were sound. Including the windfalls, the difference in favor of the power sprayer was only 2.02 per cent.

Another block of 25 trees was sprayed on May 5, June 18 and July 10 with a hand sprayer, using 3 pounds of the paste form of arsenate of lead to 50 gallons of water. At picking time these trees had 3,195 pears, 2,935, or 91.86 per cent, being sound. Comparing this with the 91.23 per cent sound obtained with the powdered arsenate of lead, there is .63 per cent in favor of the paste form. Comparing it with the 94.91 per cent with the power sprayer, it gives 3.05 per cent in favor of the powdered arsenate of lead with the power sprayer.

Another block of 50 trees was sprayed on April 19, May 5, June 18 and July 10 with the power sprayer, using powdered arsenate of lead. In this block the calyx spray was given. From August 3rd to 14th, 7,357 pears were picked, 7,304, or 99.28 per cent, being sound. There were 1,759 windfalls, 1,738 being sound. The total yield was 9,116, of which 9,042, or 99.19 per cent, were sound. The calyx spray given with the power sprayer increased the amount of sound fruit picked 4.37 per cent.

In the check block of 11 unsprayed trees, 1,346 were gathered at picking time, 903, or 67.08 per cent, being sound. The total yield, including the windfalls, amounted to 1,680, of which 1,181, or 70.3 per cent, were sound. Thus it is seen that approximately one-third of the pears picked from the unsprayed trees were wormy.

These figures indicate the value of spraying and at the same time the small difference in results between the paste and powdered form of arsenate of lead; also the small difference in results between the power sprayer and the hand sprayer, the difference being a little over 3 per cent in favor of the former. The question that might arise is, whether this small difference would hold true in the spraying of larger trees with dense foliage, since the power sprayer has more force and on account of this a finer, as well as more penetrating, spray can be produced.

If a hand sprayer is to be used it should have the best agitator possible, and the material must be kept constantly well agitated.

The calyx spray is applied when about 90 per cent to 100 per cent of the blossoms have fallen. The second spray is given, usually, about sixteen days later. The dates of the subsequent sprayings during the year are governed by the date of application of the calyx spray.

FABIAN GARCIA.

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# Department of Animal Husbandry

## VALUE OF MESQUITE BEANS FOR PIG FEEDING.

In the August, 1916, issue of the "Courier" an article was published on the feeding value of the mesquite bean (Prosopis glandulosa). Since that time an additional experiment has been conducted at the New Mexico Agricultural Experiment Station, and the results secured indicate that when properly ground, the beans have a feeding value somewhat higher than the preliminary feeding experiment referred to indicated.

The second experiment began November 15, and closed January 30, 1917; covering a period of 76 days. Eight grade Duroc-Jersey pigs, from the same litter and quite uniform, were divided into two lots of four pigs each. The average weight of the pigs of Lot I was 105 pounds each; of those of Lot II, 104 pounds. They were in fair flesh, but not fat, at the beginning of the experiment. A concentrate ration that approximated 3 per cent of the live weight was fed each lot through the experiment; in addition to all the choice alfalfa hay they would eat. The concentrate fed Lot I consisted of one-half ground corn and one-half ground mesquite beans; while that of Lot II consisted of ground corn only. The same weight of concentrate was fed to each lot; but Lot I consumed 9 pounds more of the hay during the experiment than Lot II.

The first four weeks of the experiment the mesquite beans were only four or five per cent less efficient than corn, in putting on gain. During this period it required 4.7 pounds of the mixture (half corn and half mesquite beans) and 2.2 pounds of alfalfa hay to produce a pound of gain, on Lot I; while 4.6 pounds of corn and 2 pounds of alfalfa were required to make a pound of gain on Lot II.

The second four weeks it required 5.2 pounds of corn and mesquite beans and 2.2 pounds of alfalfa hay to produce one pound of gain on Lot I, and only 4 pounds of corn and 1.7 pound of alfalfa to produce a pound of gain on Lot II.

During the last 20 days of the experiment only 3.4 pounds of the corn and mesquite beans and .9 pound of hay, in the case of Lot I, and and 2.6 pounds of corn and .7 pound of hay, for Lot II, were required to make a pound of gain.

During the first nine weeks the ground mesquite beans were about 75 per cent as efficient as the ground corn, in putting on gain. However, after the first four weeks the beans were only about 53 per cent as valuable, pound for pound, as the corn.

The results obtained would indicate that with young shoats possibly it might be better to feed a larger proportion of the ground mesquite beans at the beginning of the fattening period, and a smaller proportion towards the close. They tend to promote growth, rather than to the rapid putting on of fat.

While the experiments thus far conducted along this line have not been very extensive, they indicate clearly that the mesquite bean is a valuable feed; and the indiscriminate cutting of the bushes, and especially of digging out the roots, should be discouraged; unless there is sufficient water available to make the growing of some other plant more profitable. It is not an uncommon thing, in southern New Mexico, to see a medium sized bush, with a spread of not more than fourteen or eighteen feet, bearing from a bushel to a bushel and a half of the beans—enough to produce several pounds of meat. A single crop from some of the bushes is worth more than the wood they contain; and they bear quite regularly.

According to the botanists, this bush or tree possesses the very desirable feature of sending its roots to water, even though the water table may be sixty feet or more from the surface. No matter how large the crop, it appears never to suffer for moisture, even in the driest years. In addition to the beans, the blossoms furnish nectar for the making of a fine quality of honey; and the grass and weeds seem to grow better—especially during dry years, when feed is scarce—in the shade of a vigorous, producing mesquite bush than they do in the open. This is attributable largely, no doubt, to there being more available moisture in such situations.

Gathering mesquite beans is a rather tedious process, but where they can be secured for twenty or thirty cents per hundred pounds, as they can be at times in certain parts of the State, they are a very economical feed; especially when grains are high. They are also difficult to grind, but machinery can be secured that will grind them satisfactorily; though such mills are at present rather expensive. When quite dry, the beans can be ground on the ordinary machinery used for the making of alfalfa meal.

Although the small, exceedingly hard seed weighs only about one-fourth of the total, it contains nutrients valued at about 40 per cent of the total, and unless the beans are ground, a large percentage of the nutrients is lost, through not being digested. Approximately 69 per cent of the protein and 60 per cent of the fat are in the seed, while about 76 per cent of the nitrogen-free extract (sugars, pectin, etc.) is in the husk.

C. P. WILSON.

## SUDAN GRASS FOR PASTURE

An experiment of the agronomy department during the season of 1915 indicated that Sudan grass might prove an excellent pasture grass. Hence, on April 19, 1916, a seven-acre tract was seeded to this grass, at the rate of 20 pounds of seed per acre, using an ordinary Hoosier disk drill for the purpose. This piece of land was divided into two equal fields, which were arranged so that they could be conveniently irrigated and pastured alternately. By June 19, just sixty days after seeding, the grass was in excellent condition for pasturing, averaging eighteen inches in height, when twelve dairy cows, averaging 1058 pounds in weight, were turned on to one of the fields. After a few days it was found that twelve cows were not sufficient to catch up with the growth the pasture was making, and eight more, larger cows, average weight 1186 pounds, were added for twelve days, when the pasture was reduced to about the right condition and the extra cows removed. The two fields were irrigated and pastured alternately during the season, the change being made at intervals of about two weeks. Heavy rains came about the middle of October, making these fields too muddy for use, when the cows were taken offf and the experiment closed; but still later, in November, twenty-five head of dry cows and young stock were run on the two fields for a period of eight days, and had an abundant supply of feed during that time. Six of the twelve cows that were kept on the pasture constantly, day and night, from June 19 to October 13, had a small grain ration, averaging four pounds per head. The twelve cows were divided into two lots, and the grain ration was alternated from one lot to the other every thirty days; so the cows received exactly the same treatment and were practically in the same relative condition at the close of the experiment. The result of this part of the experiment shows that it does not pay to feed a grain ration to cows running on good pasture. During the four months that they were on pasture they gained an average of 19 pounds per head, and gave 27,422.5 pounds of milk, which produced 1,096.9 pounds of butterfat. The eight dairy and beef cows that were temporarily on the pasture gained eighteen pounds per head, in twelve days. The pasture carried an average of, two cows per acre for four months. There was no indication of poisoning by pasturing this grass in November, after the frost came, though the same care should be taken when pasturing Sudan grass as when pasturing any of the other sorghums. Judging from this single trial, Sudan grass should prove to be one of the best annuals for pasture during the season of the year covered by this experiment. It is of good quality, makes quick growth after being pastured off and responds promptly to irrigation. It is closely related to Johnson grass and very much resembles it, but does not have the rootstalks that make Johnson grass a pest. A number of years' experience with Johnson grass proved it to be excellent for pasture, but because of the difficulty of eradicating it when it once gets a foothold, its use is not recommended, except in isolated fields intended for permanent pasture. In composition and digestibility for both pasture and hay, Sudan grass is about the same as Johnson grass or timothy. The Sudan hay has more protein than Johnson grass hay, but is a little lower in fats, nitrogen-free extract and crude fiber than the latter.

For pasture, the place of Sudan grass and other annuals is to supplement the permanent pastures during the summer. They are at a disadvantage, because the ground is necessarily soft and subject to injury from trampling, even under favorable conditions, because they do not form a turf. Some of the plants, too, are pulled up by the roots at the first grazing. On this account, Sudan grass should not be pastured the first time until 15 to 18 inches high; particularly on sandy or loamy soils.

LUTHER FOSTER.

## RUSSIAN THISTLE ENSILAGE.

On account of the abundance of Russian thistle, or "tumble weed," as it is commonly called, growing in the State, the question has arisen as to whether this weed might not be utilized in some form as a feed for livestock.

Several instances have been noted where animals have eaten, and seemed to relish, the young green plant, but upon its maturing the abundance of sharp projections upon it, and its subsequent drying up, render it unpalatable.

On September 11, 1916, about four tons of Russian thistle were gathered, put through an ensilage cutter and stored in a cement pit silo on the College farm. It was the intention to use only the young plants, but enough of these were not available, and thistles were secured ranging from one and a half to three and a half feet in height. These were thoroughly wet and packed as they went into the silo. When the filling was finished, the top of the silo was covered with gravel. From this time until January, when the silo was opened, the silage continued to sink slowly, indicating that it had not been possible to eliminate all of the air at the time of filling. Upon opening the silo it was found that the first five feet of ensilage was spoiled. Below this it was of a dark brown color and had a strong acid odor. On being exposed to the air for a few hours, it turned still darker and developed a very unpleasant odor. When it was substituted for corn silage with the young stock and dry cows they ate it fairly well. January 30 two heifers were put on a ration consisting of 10 pounds of alfalfa hay and 10 pounds of this ensilage, per head. During the 13 days they were fed in this way they ate 231 pounds of the ensilage and 260 pounds of the hay. At the beginning of this period the heifers weighed, respectively, 626 and 723 pounds. At the end they weighed 630 and 730 pounds. They were then put on the thistle ensilage alone, for a period of 10 days, and during this time the two ate 341 pounds. They left considerable refuse, but this was expected, on account of the advanced state of maturity of some of the thistle, which made it quite woody. The heifers appeared hungry most of the time, and at the end of the ten days they had lost ten pounds each. From the results obtained in this preliminary experiment, it cannot be claimed that Russian thistle ensilage, put up in the manner of corn or cane ensilage, makes a good feed. Although the stock will eat it when it is first taken out of the silo, it rots quickly and develops a very disagreeable odor. It is hoped, however, that some method may be found, in subsequent experiments, whereby the putrefactive bacteria in the ensilage may be made to give place to those of a fermenting nature, thereby making it more palatable to livestock.

To those who carry cattle over the winter on the range, it might prove practicable to supplement the range with Russian thistle ensilage; especially in localities where the plant grows in abundance. In this locality it was difficult to find a sufficient quantity at the right stage of maturity; plants of all ages usually being mixed together wherever it grew.

E. J. MAYNARD.

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Weed out the low yielding cows by the use of the scales and the Babcock test.

# Department of Agronomy.

## COTTON CULTURE.

It has long been a question in the minds of the farmers in some of the irrigated valleys in this State as to whether cotton can be profitably produced in these regions or not. The high price paid for cotton lint and cotton seed has brought this question more forcibly to mind the past year or so.

With the idea of testing the suitability of cotton for irrigated areas in this State, a project was planned in the winter of 1916, and seed of a considerable number of varieties of cotton were collected and planted in the spring of that year. This was secured from many sources. In most cases, however, an attempt was made to get seed that had been grown under soil and climatic conditions as near like ours as possible. In all, 28 varieties of cotton were planted.

The field upon which the cotton was planted was in young alfalfa the previous year; this was plowed up the latter part of January, 1916, and harrowed with a spike tooth harrow. The plots were laid out and borders thrown up and the land double disked, harrowed and dragged on April 12.

The soil in this field is not very uniform in texture, but an attempt to overcome this difficulty was made by duplicating the plots. The soil might be classified as a clay loam, rather heavy in spots.

The cotton seed was planted with an ordinary one row Avery cotton or corn planter, in rows 40 inches apart, at the rate of about 20 pounds of seed per acre. A bushel of cotton seed usually contains between 120,000 and 150,000 seeds, or enough, if each one developed into a mature plant, to suffice for fully fifteen acres. However, it is customary to plant ¾ to 1½ bushel of seed per acre. On stiff land, it is advantageous to have a thick stand of plants, so that the combined strength of the plants may be exerted to break through the surface crust, which is often too strong to be broken by a single plantlet.

All but two plots were irrigated after planting, in other words, "irrigated up." The other two plots were planted in a moist seed bed and allowed to germinate before irrigating. The first planting was made on April 13, but a very poor stand was the result, many of the seed rotting in the ground. The remainder of the plots were planted April 21 to 24, and a reasonably good stand secured, with the exception of a few varieties where very poor seed was planted.

The plots that were irrigated up were harrowed with a spike tooth harrow as soon as the ground was dry enough to allow a team to walk on it without sinking. Very little difference was noticed in the stands secured under the two methods of planting, but the cotton came on more quickly on the plots that were irrigated after planting.

All of the plots were irrigated six times and the water turned off after being allowed to stand an hour or so. The plots were cultivated four times during the season. In the first two cultivations, a disk cultivator was used and the dirt turned away from the plants. In the last two cultivations, a shovel cultivator was used and the dirt thrown to the plants.

The yields of the three heaviest

producing varieties were as follows:—

Burnett's Cotton yielded at the rate of 1.47 bale of lint cotton per acre;

Dũrango, 1.46 bale per acre;

Allan's Imperial Triumph, 1.37 bale per acre.

These results are not conclusive, as they are based on only one year's work, but are quite encouraging. Those who contemplate planting cotton should exercise every precaution to secure good seed, cultivate often and use water sparingly, as the plants have a tendency to grow too rank on our rich soils.

RUPERT L. STEWART,
Agronomist.

# The Home Department

Edited by Gail Richie, State Demonstrator in Home Economics.

## THE HOMEMADE FIRELESS COOKER.

Advantages:—

(a) Time saving. While the food is cooking, the housekeeper may be otherwise employed without fear of its burning.

(b) Fuel saving. A fire is needed only long enough to make the food boiling hot before putting it in the cooker. Especially is the saving noticeable when gas, coal oil or electric stoves are used.

(c) Comfort. Removes the necessity of working in a hot kitchen, keeping up fires, etc.

(d) Better foods. Many foods cooked for a long time at a low temperature are more wholesome and are better flavored than when cooked at a high temperature.

Principle:

Retention of the heat obtained by boiling the food for a few minutes by placing it in the cooker which does not allow the heat to escape. Hot soapstones are placed in the cooker when higher temperature is needed or longer cooking desired.

Materials needed:

For the outside container, a tightly built wooden box, an old trunk, a small barrel, or a large butter or lard firkin or tin may be used. The size of the container depends upon the size of the cooking utensils to be used. Room for at least 4 inches of packing material all around the utensil must be allowed.

The cooking utensils should be durable and seamless: The sides should be perpendicular, the covers as flat as possible and tight fitting.

For the nest, strong pasteboard cylindrical in shape and but slightly larger than the cooking vessel should be used. A tin bucket may be used or the tinner may make a nest lining of galvanized iron or zinc with a rim large enough to cover the entire top of the packing material.

There is a variety of packing and insulating material from which to select. Asbestos, mineral wool, ground cork, hay, excelsior, wool or crumpled paper may be used.

Packing:

Suppose the container is to be packed with crumpled paper, the following method should be used:—

Crush single sheets of newspaper between the hands. Pack a layer at least 4 inches deep over the bottom of the outside container, pounding it in with a heavy stick of wood. Place a disk of asbestos over this. Stand the container for the cooking vessel, or lining for the nest, in the center of this asbestos, surround it with a sheet of asbestos paper and pack more crushed paper about it as solidly as possible. The packing material should come to the top of the container for the cooking vessel and the box should lack about four inches of being full. A cushion made of some heavy material and stuffed well with paper is provided to fill completely the space between the top of the packing and the cover of the box after the hot cooking vessels are put in place.

For more explicit directions for making the fireless cooker, and how to use it, together with suitable recipes for fireless cooking, write for Farmers' Bulletin 771, addressing either Division of Publications, U. S. Dept. of Agriculture, Washington, D. C., or Extension Division, N. M. A. C., State College, New Mexico.

## USES FOR PAPER IN THE HOME

Paper may be used in a number of ways to make housework lighter. Part of the kitchen equipment might be a roll of clean paper. Newspapers that have been kept clean may be spread on the table before peeling vegetables or doing similar work, to keep the table clean. Paper may be used to clean the top of the stove and may serve to take up the grease from the sink. Spread on the floor when sewing or cutting out materials, it saves extra sweeping and keeps the sewing clean.

Newspapers sewed together form strong bags suitable for packing away clothing during seasons it is not in use.

Paper napkins save laundry work and are greatly to be preferred to no napkins at all. Paper sets consisting of lunch cloth and napkins are useful on picnics, and paper plates, cups, etc., are a great convenience upon such occasions.

Paper wrapped around a piece of ice makes it melt less rapidly. Crushed paper packed down firmly makes good insulation material for the homemade fireless cooker.

## HOW TO GROW FINE DAHLIAS.

(Continued from last month.)

### How to Plant.

"As to planting, do not plant the tubers standing up in the soil. Put them down sideways. I excavate a hole about six inches deep and about six inches around. Then in the bot- of this I sprinkle some bone meal, stirring in and mixing. On top of the bone meal I put about two inches of dirt and pack it down. On this I lay the dahlia tuber. Don't let bone meal be closer to the tuber than 2 inches. If the tuber is too long for the hole, I tunnel out on each side so that I can get the tuber in place. I then cover it with about four inches of dirt and it will begin to send up shoots within two weeks. Every tuber or potato must have a part of the old stalk with it if it is to grow. In planting them, split the old stalk with a big knife, making sure that a piece of the old stalk adheres to each tuber that is to be planted The new stalk comes up from that joint. The new tubers are formed below the old one and are the tubers to be planted the next year. The old ones usually rot away.

"After the dahlias have come up, do not use any manure on the bed; it will burn them. Scatter bone meal every three or four weeks about over the surface of the bed and work it in by stirring up the ground to a depth of about two inches."

# Boys' and Girls' Club Work

W. T. Conway, State Leader.

## THE CLUBS AND THE OPEN COUNTRY.

(A Boys' and Girls' Club Song to the tune of "Dixie")

—1—

The farmer plows and puts his corn in;
He does the chores both night and mornin!—
Hie Away! Join a Club, farmer girls, farmer boys.
The farm girl sews, she cooks and she washes,
Sweeps and dusts, she darns and she patches—
Hie Away! Join a Club, farmer girls, farmer boys.

CHORUS

We live in the open Country,
Hooray! Hooray!
We work, we play, we are glad each day
That we live in the open Country,
Hooray! Hooray! for the Clubs and the open Country!
Hooray! Hooray! for the Clubs and the open Country!

—2—

The boys and girls the Clubs are joining,
By raising pigs the cash are coining,
Hie Away! Raise a pig, farmer girls, farmer boys!
The broody hens the eggs are hatching,
The Chick-a-Chicks in the pens are scratching—
Hie away! Raise some chicks, farmer girls, farmer boys!

CHORUS

—3—

While gardens grow with fruit and flowers,
The birds and bees make merry long hours—
Hie Away! Plant a tree, farmer girls, farmer boys!
While town folks all are fussing and fanning
Country girls are preserving and canning—
Hie Away! Fill the jars, farmer girls, farmer boys!

**CHORUS**

—4—

We've joined the Clubs; we are achieving
While lazy wags their parents are grieving—
Hie Away! Join the Clubs, all you girls, all you boys!
We'll work and win good profit and pleasure,
We'll meet the world's high standards of measure—
Hie Away! Join the Clubs, all you girls, all you boys!

SECOND CHORUS

Then give us the open country;
Hooray! Hooray!
Through thick and thin we'll work and win,
And beautify the open country,
Hooray, Hooray, for the Clubs and the open Country!
Hooray, Hooray, for the Clubs and the open Country!

## SCHOOL CREDITS FOR CLUB WORK

The educational value of agricultural club work is to be given recognition, and school credits for it are to be allowed in the course of study prescribed for the public schools of the State of Louisiana, if plans inaugurated at a recent meeting of representatives from the Extension Division of L. S. U. and the State Department of Public Education are carried out. At this meeting a committee was appointed to work out a system by which such credits may be given. This committee has completed tentative plans, which are being submitted to various school authorities for suggestions and approval.

Education, in one of its meanings, is simply the acquisition of knowledge, and the supporters of club work, as it is carried on in Louisiana, claim that it comes within this definition. They hold that a boy who gives the time and attention necessary to raise and harvest an acre of corn under the rules laid down has added something to his store of knowledge; that the various operations of planting, fertilizing, cultivating, harvesting and marketing have each a definite lesson for him. In order to do these things under the rules the boy must study the circulars and bulletins of instruction. He must keep an accurate account of each hour's labor by himself and team. He must include in his records all expenditures for seed and fertilizer. He must know how much it cost to harvest and market his crop. Other points that count in the final summary are his total yield and profit. He is provided at the beginning of the season with a record booklet for these accounts and at the end of the year this booklet is sent to the Extension Office to be used in grading the work.

A lesson in economy is learned by the successful club member because he must keep down the cost of production. He must persevere in the face of adverse weather conditions and insect infestation. He must learn the points that go to make up a first-class ear of corn if he hopes to make a creditable exhibit at an agricultural fair. And last but not least, the principles of the "square deal" enter very largely into his work all along the line. In order not to take unfair advantage of other club members he must be fair in his record keeping; he must charge each item of expense and measure carefully each item of production.

In like manner the pig club member, the canning club member and the poultry club member are acquiring knowledge as they carry out their respective projects. Each of them must keep records similar to those of the corn club boy, must persevere in their work, and must render fair and accurate accounts of it at the end of the year.—L. S. U. Press Bulletin.

## SOMETHING DEFINITE.

Boys' and Girls' Club Work is a definite work. There is a time to begin and a time to close.

The work is divided into projects, each of which is definite in its character. Circulars have been published outlining the work in a simple way, yet practical and definite. Everything done by the club member in working out his project is a matter of record. These records are kept on booklets furnished for that purpose. The records are kept in a definite form for a definite purpose. That purpose is to show just what it costs to work out a given project under prevailing conditions, and to teach the worker system and order in his work.

At the close of the season, there is an exhibit of products and records, for the purpose of comparison. Premiums and awards are only incidentals. A net profit is the immediate end sought, while knowledge of principles and practices, skill in execution and love for achievement are the higher ends in view. Such an environment will help any boy or girl to grow into a good citizen.

## SLOGANS FOR CLUB WORK.

An organized Club in every progressive community.

Positive leadership for every organized Club.

A demonstration team in each Club Project.

Club round-ups in every County where Club Work is done.

Newbill of Washington State says: "There are three distinct "ups" in Club Work. They are Start-up, Follow-up, and Close-up. But if you do not intend to follow-up, you had better close-up before you start-up."

## SHOPPING HINTS

If housewives would put aside samples of textile fabrics along with data as to date of purchase and price paid, this information would form the basis for more economical buying later on, is the suggestion offered by the home economics department of the state agricultural college.

Economical buying of fabrics calls for a wider knowledge and more discrimination than ever before, owing to the use of new methods of manufacture, new machinery, and new fibers. For example, ramie, a new fiber stronger than linen, is coming into use for a number of textiles used in home furnishing. Also, artificial silks are very tempting because of their beautiful luster, though they cannot be washed successfully.

To carry a ton one mile by sea costs one-tenth of a cent; by railroad, one cent. To haul a ton over good roads costs seven cents a mile; over ordinary country roads, 25 cents a mile. Mud tax and hill-climbing tolls, therefore, amount to 18 cents a mile.

The prosperous farmer is the one who reads and absorbs new ideas. Subscribe to several of the best farm papers and magazines. If you subscribe for them, don't throw them away as soon as they come, but read them, then file them away for future reference.

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# THE NEW MEXICO FARM COURIER

VOL. V. MAY, 1917. NO. 6

Patriotism
Production
Prosperity

THE FARMER'S CALL TO THE COLORS.

Published Monthly by The
Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M.

In Cooperation with the U. S. Department of Agriculture.

# THE NEW MEXICO FARM COURIER

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E. PETERSON, Clovis, Curry County.
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## OUR NEW PRESIDENT

On April 11th, Dr. A. D. Crile, of Roswell, was elected president of the New Mexico College of Agriculture and Mechanic Arts by unanimous vote of the Board of Regents, to succeed Dr. George E. Ladd, who recently resigned. Many comments have been made on the good fortune of the institution in securing the services of such a man as Dr. Crile for this position. We will simply add our opinion that it would be difficult to find a more striking example of the fitness of things. Who could be better qualified to administer the affairs of our Agricultural College than a high-principled, broad-minded man who has the education, training and experience that Dr. Crile has, and, more important from the farmers' standpoint, who has made a splendid success of practical farming in our own State?

## AN AGRICULTURAL AGENT FOR EVERY COUNTY.

Every agricultural county should have a County Agricultural Agent. There is not a more important or more needed man in a county than the County Agricultural Agent, and especially at the present time. He is the man who can lead in organizing the people for the mobilization of their agricultural resources; he is the man who can keep the farmers posted on seed, breeding stock, labor, markets, etc., and he is the man to whom they can go with their many agricultural problems for solution. Through him the farmers have access to the vast storehouse of information gathered by the agricultural colleges, experiment stations, and the United States Department of Agriculture.

Of most importance to the farmer is the fact that through the County Agent the experience of local farmers is made available. The County Agent is a general carrier of the best agricultural ideas and practices from one farm to another. Through him each farm in the county becomes an experiment or demonstration farm. He organizes and correlates the agricultural industries of the county. He perfects organizations for the farmers and for the boys and girls and also conducts short courses and demonstrations for them. He is interested in every progressive movement that means the improvement of the forces that tend to prosperity and better community life—better homes, schools, churches, roads, markets, and social and industrial organizations.

New Mexico is primarily an agricultural state. Its future wealth and revenue depend largely upon the development of its agricultural resources, and one of the men who will play an important part in that development is the County Agent. At the present time one thousand to fifteen hundred families are coming to our State each month to make homes. We need them, and we want them to make real and permanent homes, not temporary ones. Therefore the value of the services of a County Agricultural Agent is at once apparent. It is important that all chances for failure should be eliminated as far as possible. These people are coming to us from all sections of the country, with little or no knowledge of our conditions and of the farm practices that will succeed here. If they are allowed to farm as they did in the sections from which they came, their chances for success are few. The majority of them have very little capital, and a failure would mean the abandoning of their present holdings and the seeking of work elsewhere. For this reason a man who is well trained in scientific as well as practical agriculture, and who understands our conditions, should be on the job to help start these people right.

If anyone doubts the value of the work performed by these County Agents, it is suggested that he discuss the matter with farmers living in those counties where Agents are now located. Counties not now having Agricultural Agents and who are interested and desire more information relative to the securing of an Agent can obtain such information by addressing the Extension Service of the New Mexico College of Agriculture and Mechanic Arts.

A. C. COOLEY,
Director of Extension.

## ATTENTION, MR. FARMER!

The greatest and most important service that the New Mexico farmer can render his country at the present time is to increase his crop acreage and properly care for his livestock. Under present conditions there is no danger of an over-production. There is a great shortage of all staple crops throughout the world. Therefore the farmer can rest assured that anything he produces in the way of foodstuffs will find a ready market at a good price. In our present crisis beans and bacon will do as much towards winning victories as will bullets and cannon balls. Now is the time for each individual to take stock and decide on the service that he can best render his country. Farmers are needed just as badly as are soldiers, and the outcome of the present war will depend more upon foodstuffs than it will upon explosives.

It is not too late to increase the acreage of spring wheat, rye and barley, and the time for planting beans, corn and potatoes and the sorghum crops will not pass for several weeks yet. Farmers in sections adapted to growing these crops should put forth an extra effort to plant every available acre they can. Many sections of our State are well adapted for growing cowpeas and soy beans, both of which are very valuable human foods.

Your Agricultural College is ready and willing to render any assistance it can in advising farmers relative to seed, cultural methods, pest control and marketing. All inquiries addressed to the Extension Service, State College, New Mexico, will receive prompt attention.

## PROGRAM FOR FOOD PRODUCTION AND CONSERVATION.

### As Recommended by the Recent Agricultural Conference at Saint Louis.

An emergency appropriation of $25,000,000 to be made available immediately for the use of the Secretary of Agriculture to meet the extraordinary needs of agriculture; an urgent call to all farmers to increase production and to housewives to avoid all food waste; the mobilization of over 2,000,000 unemployed boys between the ages of fifteen and nineteen years for service on the farms and in the production of food supplies and munitions; the enlistment of men unfitted for military service as an officially-recognized force for the production of necessities; a complete survey of the food supply; national systematic publicity of food prices; effective control of agencies for the manufacture and handling of foods, and price fixing, if necessary—these are among the leading recommendations of sixty-two officials representing State agricultural colleges and commissions of thirty-two States, from New York to the Rocky Mountains, who met at the request of the Secretary of Agriculture to confer with representatives of the U. S. Department of Agriculture in St. Louis, April 10 and 11. The conference, after dealing with the general problems of financing agriculture and organizing the Federal and State agencies for effective cooperation, made a special appeal to the patriotism of farmers and recommended a definite program particularly looking to the increase of cereal and leguminous food and meat and animal products. Home owners and their children were urged to produce as much food as possible in back yards and vacant lots and to can or preserve all surplus.

The conference, after thorough discussion, decided to deal with the whole subject of the food supply under four major divisions as follows:

1. Production and labor.
2. Distribution and Prices.
3. Economy and Utilization.
4. Effective Organization.

A committee of fifteen, composed of State commissioners of agriculture, representatives of State colleges, and representatives of the U. S. Department of Agriculture, was appointed. This committee appointed subcommittees from its membership to deal with each of the four problems. The committee then reported its findings to the general conference, which decided to express its views and to urge the courses of action as summarized below:

### The Farmer's Responsibility

Upon the farmer rests in large measure the final responsibility of winning the war in which we are now involved. The importance to the nation of an adequate food supply, especially for the present year, can not be over-estimated. The world's food reserve is very low. Therefore, the man who tills the soil and supports the soldier in the field, and the family at home, is rendering as noble and patriotic a service as is the man who bears the brunt of battle.

Within the next sixty days the final measure of crop acreage and food production for this year will have been established. We urge the importance of the immediate mobilization of all available service in performing the patriotic duty of providing and conserving food.

Because of the world shortage of food, it is scarcely possible that the production of staple crops by the farmers of the United States can be too great this year. There is every reason to believe that a generous price will be paid for the harvest of their fields.

### Emergency Appropriation of $25,000,000.

To meet the extraordinary needs of agriculture in this emergency we recommend an appropriation of $25,000,000, or so much thereof as may be needed, to be available immediately for the use of the Secretary of Agriculture in such manner as he may deem best.

The situation which now confronts our country is a great emergency—the greatest, perhaps, in its history. It is strongly urged that Congress and State Legislatures, in passing laws or in making appropriations intended to carry out these or other plans for assuring an adequate food and clothing supply, should, so far as possible, be governed by the principle that when the emergency ceases much permanent reconstruction in agricultural policies and plans may be necessary.

The recommendations in the main call for Federal action, but State Governments can and should cooperate to the fullest degree in considering and executing plans of cooperation and of supplemental legislation and appropriation for the great common purpose herein enunciated.

# Department of Agronomy.

## MORE FEED FOR LIVESTOCK.

Preparedness is the watchword of the hour. This applies as much to the farmer as it does to any other type of business man who is helping the nation to uphold its honor or to repel invasion from a hostile country. Feed has increased in value between forty and fifty per cent over the average in the past three years, but feed we must have if we are to keep our ever increasing population from suffering for the lack of sufficient animal products to properly nourish their bodies.

New Mexico is essentially an agricultural state, with the livestock industry predominating, and therefore has a great duty to perform. We must do our share towards feeding the hungry multitudes. We are very fortunately situated in this respect, for we have fertile soils, warm sunny days, and in most instances ample moisture; all of which are conducive to good crop production. In many sections of the State two crops can be produced on the same piece of land in a single season. A large acreage of wheat has been seeded in some sections of the State this year; this wheat will be ready to harvest in June or early in July, allowing plenty of time to produce a second crop. No farmer should allow his land to lie idle the remainder of the season but should have his seed ready to plant as soon as the grain is taken off. There are a variety of crops that can be used as catch crops or crops to follow grain.

Dwarf milo and dwarf kafir, beans, cowpeas, millet, some of the shorter seasoned varieties of corn, will all produce an abundance of forage when planted as late as July 15.

There is yet ample time to plant even the longer seasoned crops, such as field corn, Sudan grass and the sorghums, all of which do well in practically all sections of the State, producing large quantities of feed.

Sudan grass is a comparatively new crop in this country but it has already proven its worth as a forage producer. It is one of the most valuable hay crops for the dry farmers that has yet been found; and in the irrigated valleys of this State it yields three cuttings of about two tons each in one season. In feeding value it lies somewhere between alfalfa and sorghum cane. Sudan grass hay is adapted to the feeding of all types of livestock with the possible exception of swine. It is relished by all types of livestock when fed continuously and not alternately with alfalfa. This crop should not be planted till the soil is warm and all danger of frost is past. Under dry-farming conditions Sudan grass should be seeded in rows which will permit cultivation between the rows; 3 to 4 pounds of seed is usually sufficient when planted in rows. Under irrigation conditions the crop may be drilled with the ordinary grain drill, requiring 6 to 10 pounds per acre. Sudan grass makes a good pasture for dairy cows. The results of one year's experience at this Station along this line may be had by applying for Press Bulletin No. 279.

RUPERT L. STEWART,
Agronomist.

## GRAIN SORGHUMS AS HUMAN FOOD.

Winter killed grains should be replaced by the Sorghums, which can be planted as late as June 20th in many sections and still make a crop. Although the protein of the grain sorghums has been shown by dietetic experiments of the Office of Home Economics of the U. S. Department of Agriculture to be less digestible than that of corn or wheat, all of the sorghums except kaoliang furnish a fairly good source of protein and practically as good a source of carbohydrates as the two grains in most general use. The Department specialists, therefore, find the grain sorghums worthy of use in all sections to give variety to the diet. In regions where other cereals are not so successfully grown, it is pointed out, the grain sorghums may contribute materially to the supply of substances suitable as human food. The conclusions in regard to these grains are set forth in Department Bulletin No. 470, recently published.

Tests were made with kafir, feterita, milo and kaoliang, both in the form of bread and as mush. Check tests were made also with corn and wheat as breads. All six of the grains were ground into meals of the same fineness in the same mill. In the experiments with the breads, the average digestibility of the protein of the wheat was found to be 77.3 per cent; corn 59.9; kafir, 51.2; feterita, 50.6; milo, 40; and kaoliang, 19.8. In the experiments with mushes made from meals of the four grain sorghums, the digestibility of the protein was about 48 per cent for feterita and kafir, approximately 34 per cent for milo, and only 4 per cent for kaoliang. The digestibility of the carbohydrates was high for all six grains, ranging from 95.3 to 98.6 per cent.

The results of the investigations as a whole indicate that while it is best to use some wheat flour to make up for the lack of gluten in the sorghum meal, a fairly large proportion of the meal may be satisfactorily used in admixture with wheat flour in the preparation of common foods. In preparing the grain sorghums it is important to make certain of the absorption of water in such quantities that the particles of meal, which are characteristically hard or flinty, may be well softened.

To many palates the grain sorghums more nearly resemble buckwheat in flavor than they do corn or wheat. The flavor is quite generally regarded as agreeable, and the grains are conceded to be wholesome.

Dwarf kafir, dwarf milo, and feterita will pop like popcorn; the dwarf kafir pops more completely than the other grains, however, and produces a more palatable product.

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## PATRIOTISM FOR THE DAIRYMAN.

Our country is calling for increased food production. Consumption is gaining and will increase more rapidly. It is our patriotic duty to increase the food production to meet the coming needs.

The dairy cow is the most efficient producer of animal food. Hence it is all the more important that the dairymen be alive to their opportunity for service. Greater consumption of dairy products will lower the "high cost of living." We should do all we can to stimulate the use of dairy products, and, with growing production, keep pace with the growing demand.

How can the production be increased? More cows, better feeding, more silos; these ideas present themselves immediately. Others are: Plan for plenty of feed for the cows for next winter. Feed the springers and dry cows to get them in the best possible condition, so they will be able to do a big year's work. Do not raise calves by allowing them to suck; it is more trouble to raise calves by hand with skimmilk or calf meal, but the cow will produce more milk if milked properly, by hand, and whole milk is far too valuable a human food to be allowed to be wastefully and unnecessarily used for raising calves

Practice the best sanitary measures, to prevent disease among the cows, to save the calves, and to make the milk and other dairy products more healthful for human consumption.

The food situation will be our most general and vital problem, and the dairymen may best show their patriotism by increasing the amount and improving the quality of their products. Let us not be found wanting.

R. W. LATTA,
State Agent in Dairying.

## INCREASED ANIMAL FOOD PRODUCTION.

In the line of animal production of human food, the supply can be increased most rapidly and materially by giving a little extra attention to pigs, poultry and the dairy cow. Not only may farmers increase the number of chickens, with but little effort, but also almost every family in the villages and towns of the State may readily arrange to keep enough hens to supply them with all the eggs they may want to use, the year round, even in localities where it is not convenient to raise chickens; and the scraps and waste from the average kitchen would supply much of the necessary feed. With the present simple methods of preserving eggs, the less productive season could be easily provided for at the time the supply of eggs is greatest.

A pig or two, or a brood sow, may be kept with little inconvenience by most of the families of the villages and by those that live on the outskirts of the towns and larger places, and more particularly by those who raise gardens or cultivate a few acres. The slops from the kitchen and the weeds from the garden, with but little grain, would maintain the brood sow and help raise the pigs. Many farmers who keep no hogs at all at present could profitably keep a few. One brood sow would raise two litters a year, an average of eight pigs per litter, and these could be made to weigh at least 200 pounds per head at seven or eight months of age. At present prices these would bring a return in cash worth while, in addition to furnishing the family with an abundant supply of lard, sausage and pork. If only 100 farmers in a community should add one brood sow to their livestock, it would mean an increased annual supply of 250,000 pounds of pork. Should every farmer in the State, about 40,000, add just one more sow to his breeding stock, the New Mexico pork product would be thereby annually increased by 100,000,000 pounds.

The dairy cow is by far the most economic producer of human food of the meat classes of livestock, and one of the most important steps in increasing the supply of human food would be to add more cows to the dairy herd. There is not a village or town in the State where many families who now buy their milk and butter could not profitably keep a cow. The feed for milk production is cheap, compared with that necessary for growing and finishing meat producing animals; for pasture and cheap roughage may constitute a large part of her feed. As food prices increase, the dairy cow will gradually replace the strictly meat producing animals on the farm. That is what has really been taking place for the past number of years. With the dairy cow, the chickens and the brood sow added to the well managed garden, no family need go hungry.

LUTHER FOSTER.

## NEW MEXICO FARMERS LOSE 556,556 DOZENS OF EGGS ANNUALLY.

By careless handling, by not supplying the proper nests for the hens, by not gathering the eggs regularly, and by permitting the male birds to run with the hens at all times the farmers of New Mexico are annually losing $130,000.

The greatest amount of this loss is made during the summer months. Some exhaustive investigations made by the United States Department of Agriculture resulted in the finding that when clean infertile eggs were marketed in warm weather with a total loss of 23.97 per cent of all eggs marketed, 15.5 per cent, or over two-thirds of the loss was before the eggs arrived at the market. In another test where fertile eggs were used the total loss was 42.5 per cent of all eggs marketed, and 29 per cent, or over two-thirds of this loss was before the eggs arrived at the market. These figures apply only to summer investigations. The annual loss is placed at 17 per cent of all eggs marketed and is distributed to the following causes.

| | per cent |
|---|---|
| Dirties | 2.0 |
| Breakage | 2.0 |
| Chick Development | 5.0 |
| Heated and shrunken | 5.0 |
| Rotten eggs | 2.5 |
| Mouldy and badly flavored eggs | 0.5 |
| Total | 17.00 |

Recent economic developments have brought about some extraordinary conditions that should be distinctly in the mind of producers of poultry and poultry products. The high cost of all feeding stuffs has discouraged many small producers from keeping poultry. The eggs in storage on August 1, 1916, were 24 per cent less than on the same date in 1915. The comparative low cost of eggs as a food has materially increased the consumption. This indicates that the eggs in storage for 1917 will be less than for 1916. Eggs are the only farm produce used for food that has not greatly increased in price. However, should conditions that now seem inevitable come about, eggs will be higher this coming winter than during the past winter.

With these facts in mind it is, without a doubt, time for the farmers to take heed and use some precaution against this enormous loss. By letting the male birds run with the hens after the breeding season, 5 per cent or nearly one-third of the total loss is caused. By not gathering the eggs regularly, by marketing eggs found in stolen nests and by not giving the eggs proper attention while holding before taking to town, another 7.5 per cent of the loss is caused. By not providing enough nests and proper nesting material in them, another 4 per cent of the loss is caused. By feeding mouldy or tainted food or by gathering the eggs in dirty buckets another .5 per cent of the loss is caused. There is not one of these causes of loss that it is not in the power of the producer to prevent, or at the very least, greatly reduce.

In the investigations conducted by the United States Department of Agriculture some striking results were obtained by using a few simple precautions. By following these precautions over 97 per cent of all the eggs marketed were graded as number one eggs.

1. The males were separated from the hens.

2. The hens were given plenty of clean nests.

3. The eggs were gathered twice daily.

4. They were kept in a cool, dry, well ventilated cellar.

5. The eggs were taken to market twice each week and were given protection from the sun on the way to town.

6. All eggs that were dirty, misshapen, small, or found in stolen nests were kept for home use.

These precautions are not so exacting but that they can be applied by every farmer; and it has been clearly demonstrated that they will prevent a great amount of the annual loss in the egg crop.

R. B. THOMPSON,
Assistant Poultryman.

## USE MORE MILK AND MILK PRODUCTS.

**They are Cheap.**

One quart of milk has as much nutrition as any of the following:

3-4 lb. lean beef;
1-2 lb. ham;
2 1-5 lbs. chicken;
8 eggs;
2 lbs. fish;
15 lbs. oysters.

Skimmilk has more than half as much food value as whole milk. Even skimmilk is worth seven to eight cents per pound in food value compared to the animal food stuffs as priced today. Milk requires no preparation, and contains no waste.

**They are Nutritious.**

Milk has as its one and only purpose, use as food. It is a complete food, containing all the elements necessary to supply energy and to build tissue and bone, and contains certain other elements known as vitamines not in most of our foods, but which are essential to growth.

**They are Easily Digested.**

The carbohydrates, milk sugar, are already in solution, and in the form which does not need the action of the salivary or pancreatic juices for their digestion. It is less subject to fermentation than other forms of sugar.

The fat of milk is already emulsified, and fluid at body temperature, making its absorption easy and complete.

The proteins of milk stand very high in nutritive value. They are almost completely digestible and are in a form particularly adapted to bring about a storage of protein in the body. They have the further advantage of not yielding uric acid and are not readily susceptible to intestinal putrefaction.

The mineral content of milk is especially valuable. Phosphorus and lime are abundant. Milk supplies about two-thirds of the calcium of the diet in the ordinary family. Without milk it is unlikely the diet will contain enough calcium either for the child or the adult. Iron is present only in very small quantities, but in a form exceptionally favorable to assimilation.

Dr. Henry C. Sherman of Columbia University says: "It is true economy to make liberal use of milk in the diet so long as it does not cost more than twice in proportion to the energy it furnishes, as the average of other foods eaten. Those who are able to spend thirty cents per person per day for food are practicing true economy when they buy and use liberally the best milk obtainable even at fifteen cents per quart.

"In no other way can the food habits now prevailing, especially in the cities, be so certainly and economically improved as by more liberal use of good milk."

R. W. LATTA,
State Agent in Dairying.

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Though most commonly eaten raw, radishes, especially the larger sorts, are also cooked and served like creamed turnip, which they much resemble in flavor. The leaves can be used for greens, or if they are very tender can be added to salads.—United States Department of Agriculture.

# The Home Department

Edited by Gail Richie, State Demonstrator in Home Economics.

## HOW TO SELECT FOODS.

### A Day's Food Requirements.
### For a Man.

A man who does fairly hard muscular work would be likely to get the food which his body needs if supplied daily with such a combination of foods as the following:

One and one fourth pounds of bread (having about the same food value as 1 pound of such cereal preparations as wheat or rye flour, oatmeal, corn meal, rice, etc.)

Two ounces, or 1-4 cup, of butter, oil, meat drippings, or other fat. Two ounces, or 1-4 cup, of sugar; or 1-3 cup of honey, or sirup, or an equivalent amount of other sweet.

One and one-fourth pounds of food from the following: Fresh fruits and fresh or root vegetables.

Twelve ounces of food from a class which may be called "meats and meat substitutes;" that is, moderately fat meats, poultry, fish, eggs, cheese, dried legumes (beans, soy beans, peas, lentils, cowpeas, and peanuts).

A man who works hard out of doors all day probably would need more food than this, and one who sits all day at his desk would need less. The amounts given are suitable for a man who, like a salesman in a store, walks about more or less and does more or less of such work as lifting.

### For a Family of Five.

A family consisting of a man and a woman, who do moderately hard muscular work, and three children—say between 3 and 12 years of age—would get the food they require if supplied daily with—

Four and one-half pounds of bread, having about the same food value as 3 pounds of wheat or rye flour, oatmeal, corn meal, hominy, or rice; or about 2 3-4 pounds of such cereals and 5 or 6 medium-sized potatoes.

Three-fourths cup of fat (butter or butter with oil, beef drippings, or other fat)—a weekly allowance of 2 1-2 to 3 pounds.

A little more than 1 cup of sugar, or a weekly allowance of 4 pounds; or an equivalent amount of some other sweet, such as 1 1-4 cups of sirup or honey a day, or 3-4 pound of dried figs or raisins a day.

Four pounds in all of fresh fruits and fresh or root vegetables.

One of the two following, the choice depending on the age of the children:

Three quarts of milk and 1 pound of other foods taken from the meat and meat substitute group.

Two quarts of milk and 1 1-2 pounds of other foods taken from the meat and meat-substitute group.

### Cereals Used Freely.

In these combinations of food, it will be noted, bread and other preparations of cereal food are used freely as they conveniently can be, without making the ration one sided or unattractive. A diet equal in nourishment might be planned with less cereal, but this would make it necessary to increase the amounts of more costly foods, such as meat, fruits, and vegetables.

Cereals can be used freely without making the diet monotonous if they are served in a variety of forms and combined with other nutritious or flavoring materials, such as meat, cheese, onions, celery, tomatoes, and other vegetables and dried, cooked, or fresh fruits.

### Sample Meals for a Family of Two Adults and Three Children.

The food materials indicated as being required may be combined into three meals in many ways. The following meals are given not because they are recommended above many others that might be prepared, but simply to show that such foods can be combined into dishes commonly used in American homes. These meals supply during the day all of the eight essential substances and also provide flavorings and condiments which, while not important as sources of nourishment, add to the attractiveness of certain foods.

#### Breakfast.

Fruit, 1 1-4 pounds of fresh fruit (equivalent to 3 medium-sized oranges, 5 small apples, or a quart box of strawberries) or 3 or 4 ounces of dried fruits (equivalent to 10 or 12 dates or 4 or 5 figs).

Cereal breakfast food, 4 ounces before being cooked, or about 1 1-2 pints after it is cooked. The equivalent in food value in puffed or flaked ready-to-eat cereals would be 5 or 6 cups.

Milk on cereal, 1-4 cup to each person.

Sugar or fruit, on cereal, or in coffee, 2 1-2 level tablespoons or 1 1-4 ounces.

Bread, 8 slices, or 8 ounces.

Butter, 1 1-4 ounces, or 2 1-2 cubic inches.

An egg, or 2 ounces of meat, fish, or poultry for each older person, and a glass of milk for each young child.

#### Dinner.

Meat or fish, 1-4 pound per grown person; or, for each child, an egg or a glass of milk.

Potatoes (5 medium sized), 1 1-4 pounds.

Another vegetable (turnips, spinach, corn, cauliflower, or other), 1 pound.

Bread, 8 slices, or 8 ounces.

Butter, 1 1-4 ounces, or 2 1-2 cubic inches.

Steamed apple (or other fruit) pudding. (Ingredients: Two cups flour, 2 tablespoons butter, 3-4 cup milk, 4 apples, 1 tablespoon sugar.)

Sauce. (Ingredients: One-half cup sugar, 1 1-2 tablespoons flour, 2 teaspoons butter, 1-4 cup water, flavoring.)

#### Supper.

A gravy made out of 1 pint of skimmilk, 1-4 cup flour, 2 level teaspoons butter, and 4 ounces salt or smoked fish (just enough for flavor). To this can be added the egg yolk left from the frosting of the cake. (See below.)

Rice, 8 ounces, or 1 cup, measured before being cooked.

Bread, 8 slices, or 8 ounces.

Butter, 1 1-4 ounces, or 2 1-2 cubic inches.

One-half of a cake. (Ingredients for whole cake: One-fourth cup butter, 1-2 cup sugar, 1 egg, 1-2 cup milk, 1 1-2 cups flour, 2 1-2 teaspoons baking powder.) Frosting made with 1 egg white and 1-4 cup sugar.

## TONICS FOR HOGS.

Hogs are omnivorous animals and especially sensitive to a lack of variety in their feed. Under domestication they make rapid growth and it is hardly possible to supply them with sufficient quantities of all the food nutrients they require to make the most economical gains. On this account they often become restless and have a craving for certain constituents lacking in the diet, states

Dr. R. H. Williams, Animal Husbandman of the University of Arizona Agricultural Experiment Station. The following mixture has given satisfactory results.

Charcoal, 8 pounds; air-slacked lime, 8 pounds; common salt, 6 pounds; hardwood ashes, 8 pounds; powdered sulphur, 4 pounds; powdered blue stone, 2 pounds.

These should be thoroughly mixed and kept in stock so that a small supply may be before the hogs at all times. A low box makes a useful container. Such a mixture is especially cheap and will return big profits in the way of increased gains. It should be mentioned that this preparation is more of a tonic to keep the hogs in good condition rather than to safeguard them against disease. At the present time we have no hog food that will save pigs from contracting or dying from hog cholera. This tonic, however, has a beneficial effect in making the animals more vigorous and maintaining them in better condition to overcome the attack of diseases.

# Boys' and Girls' Club Work

W. T. Conway, State Leader.

## YOUNG VOLUNTEERS.

The appeal for help in producing food for our nation includes the club members and other boys and girls as well as the older folks. If every boy and girl who can secure the use of a small plot of ground will do his or her very best to raise all that the land will produce, there will be no need to worry about the supply of vegetables for use during the summer and autumn and a bountiful supply to can and store away for winter. Here is an opportunity for thousands of boys and girls to become heroes and heroines, even though they may be only half as old as the boys who enlist in the army and navy and the girls who go as Red Cross nurses. There may not be any grand celebration when they start for the field (in the backyard) or when they return after winning their battle (against weeds and clods and bugs) but they can have the satisfaction of feeling that they are doing their part and their fathers and mothers will be just as proud of them as of the older boys who are carrying rifles.

The government recognizes the useful service which can be rendered by those who till the soil; they are not asking for the young men from the farms, but are urging them to stay there and put forth their best efforts in helping to meet the crisis of an impending food shortage. The country will also recognize the patriotic service rendered by boys and girls who have the pluck, energy, ambition and love of country to do their part in strengthening the resources of the nation.

It is not too late for you to start a garden just because some of the children you know may have had theirs started for a few weeks. Some of the earliest plantings have been set back or killed by frosts, and seeds planted now will produce usable vegetables in much less time than seeds planted several weeks ago, although the earlier plantings may be a little ahead of the later ones in bearing. Make a trial. Before you know it, you will have a garden coming on which will make you proud to take people to your backyard, or wherever your plot may be located.

For you club members who are already working in your gardens or fields, study and plan a little to find ways to produce more than you had at first intended to raise. As soon as those radishes are big enough to eat, begin pulling them; and as soon as the space is vacant (or even before it is entirely vacant) plant something else there. Pull up the pea vines this summer as soon as they begin to get dry and fill the space with vegetables for fall. The gardener who lets radishes and lettuce stand in the garden all summer and go to seed is not doing all that he can to make the soil produce to its greatest capacity. Some boy or girl who has no ground would be only too glad to have those few rows where you raised your early radishes, lettuce and peas. Don't let the ground lie idle just because it has produced a crop during the first six or eight weeks of the growing season.

Another thing that club members can do to help the work along is to encourage their boy and girl friends to plant gardens. If you have more ground than you can handle, tell some boy friend he can use it. He will probably be glad to do so and to give you a share of the vegetables he raises, if you want them. Tell your neighbor boys and girls how you made your garden. If they don't know how to make garden, show them how. If you have some extra seeds or young plants, offer to supply them. Look around for vacant lots and backyards and find out why someone is not cultivating a garden there. In other words, do anything rather than allow ground to lie idle in your neighborhood.

Above all things, do not feel that what little you can do will not make any difference either way. What if the soldiers all felt the same way about "doing their bit?" Who would fight the battles then to protect those who are compelled to stay at home but who can do their part by making the most of such privileges as raising gardens?

This is a call for boy and girl volunteers. Will you join?

C. I. DEPUY.

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The members in the Field-Crops Projects should try to double the yield of their expected crops, either by doubling the acreage or by better cultivation of what they have. All kinds of food and feed stuffs are now in great demand. There is no danger of over production or low prices. Get busy and plant an extra, war acre.

The Garden Club members should plant largely the kinds that will keep for winter use—cabbage, beets, carrots, turnips and onions. They should also raise enough beans ,tomatoes and corn to can for home use. Ask us how to do the canning.

These two Club projects will be kept open for new members as long as the planting season lasts.

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## INCREASED HOME ECONOMY AND PRODUCTION.

The following is taken from the report of recommendations of the agricultural conference held at Saint Louis:

"We are the most wasteful people in the world in our ways of living. Our tastes and desires have been educated beyond our incomes" is the opening paragraph of the resolution recommending increased home economy. "Almost as great a saving could be made by the more economical manufacture, purchase and use of food as can be made by processes of production which are immediately feasible." Other recommendations are:

Our breadstuff supply may be increased by 1-12, or 18 million barrels of food a year, by milling our wheat so as to make eighty-one per cent (81%) of the kernel into flour, instead of seventy-three per cent (73%) as at present. The flour still would have as high nutritive value as that which we now use.

Important saving may be effected by making the diet as largely vegetarian as possible, without lowering food efficiency, by a partial substitution of such foods as beans, peas and milk and its products, including skimmilk, for more expensive meats.

A larger use should be made of corn and rice products as partial substitutes for wheat products.

Home-grown and home-prepared grain products should be substituted for the more expensive refined commercial foods, known as breakfast foods.

Adequate gardens should provide the home supply of vegetables. The home storage and preservation of foods such as eggs, fruits, vegetables and meats should be increased.

The serious food wastes that occur in many households through lack of culinary knowledge should be minimized through instruction in better methods. It is highly important that all educational agencies available for this purpose engage in widespread propaganda and instruction concerning the economical use of human foods.

## TREAT THE SEED—RAISE MORE FROM SEED PLANTED.

In Weekly News Letter, United States Department of Agriculture, April 4, 1917, the Secretary of Agriculture issued the following statement: "Both for economic and patriotic reasons the American farmer should strive this year for the highest standard of efficiency in the production and conservation of food."

It seems fitting, therefore, to help farmers of New Mexico to secure maximum returns from seed planted by giving the following suggestions:

First. Treat the seed of wheat, barley and oats for the prevention of smut by soaking the seed for two hours in a disinfecting solution made by adding 1 pint of formaldehyde to 40 gallons of water. Such solution may be used repeatedly.

Second. Prevent the spread of corn and sorghum smut, if only a comparatively small percentage of the plants are affected, by going through the fields during the growing season and cutting out all parts which show signs of infection. Smutted parts of corn and sorghum should be collected and burned, and not thrown on the manure pile.

Third. Select disease-free seed potatoes. Seed potatoes which have small decayed spots at the stem end should not be used, for such seed is infected with blackleg, a common disease in some potato sections of New Mexico. Furthermore, determine whether the seed potatoes are infected with the so-called fusarium wilt, by making a thin slice across the stem end of the potato and searching for brown discolorations. This disease is largely introduced into potato growing districts by means of infected tubers, and the greatest precautions against introducing or spreading this disease should be taken.

Fourth. Treat seed potatoes before planting with corrosive sublimate, soaking them from one and one-half to two hours in a solution made by dissolving 4 ounces of corrosive sublimate in hot water and adding to 30 gallons of water. As this solution becomes weaker each time it is used, it should be thrown away, after being used to treat 3 or 4 batches of potatoes, and new solution should be prepared. This treatment will control the common potato scab, **Rhizoctonia,** and also surface infection of blackleg.

Fifth. Spray potato vines with Bordeaux mixture, which will destroy, to a large extent, the early and late blight of the potato, and will protect the sprayed parts against infection. Start spraying when the plants are 6 to 8 inches high. Directions for making Bordeaux mixture may be had on application.

Sixth. Protect apple, pear and cherry trees, and also the grape vines, against the spread of powdery mildew, by applying a fungicide to the green parts of the plants. The commonest sprays employed in New Mexico are the potassium sulphide spray, used at the rate of 1 ounce of potassium sulphide (liver of sulphur), to 3 gallons of water; and the ammoniacal copper carbonate solution used at the rate of 6 ounces of copper carbonate to 3 pints of ammonia to 50 gallons of water. Ammoniacal copper carbonate should be used as promptly as possible, owing to the rapid evaporation of the ammonia. The first spray should be given as the leaves begin to unfold, and successive spraying should be given the plants as soon as the fungus reappears.

Seventh. Prevent the spread of fire blight of apple and pear trees by removing all diseased branches, twigs, and hold over cankers and burning them afterwards. Cut 10 to 12 inches below the lowest visible piont of infection. Sterilize all tools after each cut by dipping them into a solution of corrosive sublimate, same strength as for potato treatment above, in order not to infect healthy branches with the germs of the disease adhering to tools.

Eighth. Check Chlorosis, a yellowing of leaves, by an application of ferrous sulphate (green vitriol) to the plants, either by plugging or by spraying. To plug a tree, bore from 1 to 2 holes, 1-4 to 1-2 inch in diameter and deep enough to penetrate the sap wood. Into the holes, put as much green vitriol as possible, and cover with ordinary grafting wax or putty. Small trees should be sprayed with a 1 per cent solution of green vitriol. In order to give best results, the spray must be very fine, so as to wet the surface of the leaf uniformly. Two applciations may be necessary if the first application is made early in the season.

Ninth. To secure identification of any plant diseases or obtain information regarding the control of diseases in addition to the ones treated above, send **ample specimen** of the diseased plant together with **full description** of the trouble in a letter of inquiry to the Agricultural Experiment Station, State College, New Mexico.

FRED C. WERKENTHIN,
Assistant Biologist.

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# THE NEW MEXICO FARM COURIER

VOL. V. JUNE, 1917. NO. 7

FARMERS!
HOUSEWIVES!
CHILDREN!

PRODUCE MORE!
CONSUME LESS!
WASTE NOTHING!

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In Cooperation with the U. S. Department of Agriculture.

THE NEW MEXICO FARM COURIER

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## THE COUNTY AGENT LAW.

One of the measures passed by the special session of the New Mexico Legislature in order to help meet the national emergency and to place our State in a position to do her full share in relieving the world food shortage, was a law providing for the support of county agricultural agents. While the act was passed at a time of critical need, its effect and benefits will not end with the termination of the war or the relief of a keenly felt food shortage. It will mean a greater future development of New Mexico's agricultural resources and a greater prosperity for the people of the State. The principal provisions of the act are that it authorizes boards of county commissioners, upon petition of a hundred tax payers, to appropriate funds for the support of county agricultural agents and that it appropriates, for the work, a dollar of State funds for every dollar put up by the counties. The complete act follows:

An Act to Provide for Further Extending Co-Operative Agricultural Extension Work and to Promote the Production of Foods.

S. B. No. 3, as amended; Approved May 5, 1917.

Be it enacted by the Legislature of the State of New Mexico:

Section 1. That for the purpose of further extending the co-operative work provided by Chapter 29 of the Session Laws of New Mexico for the year 1915, entitled "An Act to Provide for the Maintenance of the Co-operative Agricultural Extension Work provided for by the Act of Congress, entitled 'An Act to provide for co-operative agricultural extension work between Agricultural Colleges in the several states receiving the benefits of an Act of Congress approved July 2, 1862, and all acts supplemental thereto, and the United States Department of Agriculture', approved May 8, 1914", in any county of this state employing a county agent or agents under the terms of said acts, the board of county commissioners of any such county shall be authorized, upon petition of at least one hundred bona fide taxpayers within such county, to provide and appropriate such funds as are necessary for maintenance of co-operative extension work in agriculture and home economics within such county, such funds to be provided by special levy made at the same time as other tax levies for county purposes, and the proceeds of such special levy shall be covered into a fund created to be known as the "Agricultural Extension Fund" of such county.

Sec. 2. For each dollar so provided by said county there is hereby appropriated the sum of one dollar, to be paid out of any funds in the State Treasury except money set aside for the payment of interest or sinking fund on the public debt, and the State Auditor is hereby authorized and directed to draw his warrant for the payment of monies so allotted to any such county upon the certificate of the board of county commissioners of such county, countersigned by the extension director of the New Mexico College of Agriculture and Mechanic Arts, certifying that a stated amount of money has been so provided by said county and that an agreement has been entered into between such county and said college for such co-operative extension work; provided, however, that in no case shall the total amount so allotted to any one county by the State exceed the sum of two thousand dollars ($2,000) during any one year.

Sec. 3. All funds appropriated by this act, and by the boards of county commissioners under authority of Section 1 hereof, shall be paid over to the treasurer of the Board of Regents of the New Mexico College of Agriculture and Mechanic Arts, upon warrant drawn by the State Auditor, as to state funds, and by the County Treasurer, as to county funds, and shall be expended under the supervision of the extension service of said college solely for the purposes contemplated by this act, and the Treasurer of the Board of Regents of the New Mexico College of Agriculture and Mechanic Arts shall file with the State Auditor copies of all vouchers covering the expenditure of all such monies appropriated by the State.

Sec. 4. Every such agreement made relating to county demonstration work in agriculture and home economics shall continue in full force until the Board of County Commissioners, or the New Mexico College of Agriculture and Mechanic Arts, shall terminate the agreement by notice to the other party or parties, such notice to be in writing delivered at least three months prior to the time fixed for termination of the agreement, and at the expiration of such period of three months, the co-operative relationship between said parties shall cease, unless otherwise agreed upon between the several parties.

Sec. 5. The county agents to be appointed in pursuance of this act, shall be selected by the extension service of the New Mexico College of Agriculture and Mechanic Arts and a committee appointed by the boards of county commissioners of the respective counties from nominations made by the extension service of said College. The said county agents shall work under the direction of the extension service of said college and shall devote their entire time to the discharge of their duties under this act. It shall be their duty to demonstrate as far as possible the improved agricultural and home economics practices and systems of farming and home making, so far as the same may be applicable to local conditions, which have been developed by the investigations of the United States Department of Agriculture and the Agricultural Colleges and the experiment stations; to aid in the organization and direction of agricultural work and home making in the several counties; to co-operate with agricultural and home economics clubs and other associations and organizations having for their object the betterment of agriculture and home and rural conditions.

Sec. 6. In order to obtain the advantages or to increase the benefits to be derived from the provisions of this act any two or more contiguous counties may, subject to the approval of the extension service of the New Mexico College of Agriculture and Mechanic Arts, unite in the employment of a county agent or agents under an agreement between the Board of County Commissioners of each of said counties and the extension service of said college, which agreement shall fix the amount of money to be provided by each county, in which case the funds to be provided by the state, in accordance with the provisions of section two hereof, shall be available, and shall be paid to the treasurer of said Board of Regents upon the certificates of said boards of county commissioners, countersigned by said extension director, stating the amounts of monies so provided by said counties, and that such agreement has been executed.

Sec. 7. That because a state of war exists between the United States of America and the Imperial German Government and it is necessary for the successful prosecution of such war that the production and conservation of foods be promoted and encouraged, it is hereby declared that this Act is necessary to provide for the public defense.

Sec. 8. That it is necessary for the preservation of the public peace and safety of the inhabitants of the State of New Mexico that the provisions of this act shall become effective at the earliest possible time, and therefore an emergency is hereby declared to exist, and this act shall take effect and be in full force and effect from and after its passage and approval."

The following is a suggested form of petition which is being used in some counties which have already made this first step toward the securing of a permanent county agent:

## A PETITION TO THE HONORABLE BOARD OF COUNTY COMMISSIONERS OF --------- CO. FOR A COUNTY AGRICULTURAL AGENT.

A County Agricultural Agent is not a farmers' adviser, but rather a collector and distributor of valuable information along agricultural lines. He is a general carrier of the best farm practices from one farm to another. He stands ready at all times to furnish or secure for his farmers and others information on any agricultural problem which may arise. He aids his farmers in securing better markets for their products, better seed and better livestock, in eradicating livestock diseases, treating seed against smut, testing seeds, in constructing silos and other farm buildings, in pruning, spraying, etc.; he conducts, with the aid of specialists from the College, farmers' short courses; perfects organizations for his farmers and also for the boys and girls of the county, for the purpose of giving practical instruction and demonstrations in agriculture in order that the net income from the farm may be increased.

A County Agent is a man well trained, both in the science and practices of agriculture, and one who has many sources of information at his disposal. He is the connecting link between the farmers and the State Agricultural College and the U. S. Department of Agriculture. He works solely for the best interests of the farmers themselves. County Agents are joint representatives of the U. S. Department of Agriculture, the State Agricultural College, and the counties in which they work, and are supported by these three institutions. The man is selected by a committee appointed by the Board of County Commissioners and a representative of the State Agricultural College from nominations made by the College, and the work is supervised by the Extension Service of the Agricultural College. It is customary for County Agents to have their headquarters at the County seat. They spend on the average one day a week in the office and the balance of the time in the field rendering service to their constituents.

We, the following farmers, stockmen and other taxpayers of-------- County, New Mexico. being vitally interested in the future welfare and development of the agricultural resources of our county, do hereby petition the Honorable Board of County Commissioners to secure for-------- County the services of a County Agricultural Agent, in keeping with the State Law, S. B. No. 3, Chapter 1, of the Special Session Laws, 1917, which authorizes County Commissioners, upon the petition of one hundred bona fide taxpayers, to make a special levy for the support of County Agent work, and which also provides that the State shall contribute dollar for dollar with the county in the support of said work. The amount necessary for--------- County to appropriate is---------- per year.

(Name)-------- (Address)--------
(Name)-------- (Address)--------
(Name)-------- (Address)--------
(Name)-------- (Address)--------
(Name)-------- (Address)--------

With this law in effect, there is no reason why every agricultural county in the State should not have a permanent county agent. The following counties already have permanent agents: Bernalillo, Chaves, Colfax, Dona Ana, Curry, Eddy, San Miguel, Santa Fe, Torrance, Union and Valencia.

Several other counties have temporary agents and some are ready to employ permanent agents as soon as final arrangements can be made.

For further information, address the Extension Service, State Agricultural College, State College, New Mexico.

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Don't have an empty preserving jar in your home next fall.

Reserve regular tight-sealing containers for canning foods.

Concentrate products so that each jar or can will hold as much food and as little water as possible.

Put up jams, jellies, and preserves in wide-necked glasses sealed with cork or paper and paraffin. Pack fruit juices in ordinary bottles.

Don't can anything that can be kept just as well dried or in other forms. Dry navy and mature Lima beans for winter use.—United States Department of Agriculture.

# Horticultural Department.

## PLANTING BEANS.

The bean is one of the best three food crops that can be planted this year to increase food production in the State. It has a larger range of adaptability as regards soil and climatic conditions than any other crop commonly grown in New Mexico. Unlike the Irish potato, it will grow from the lowest altitudes in the State to about 8,000 feet. It will grow on poor as well as fertile soil. The best soil, however, is a loamy or silty soil. The sandy soil is also good. The heavier or tight soil will require considerably more work in the preparation of the seed bed, as well as in tillage.

It does not require as much skill to grow beans as to produce many of our other crops, and in these rush times excellent use can be made of this crop.

It is a comparatively short season crop, maturing in from eighty to ninety days after it comes up. Under irrigation, where it receives considerable moisture, and where the soil is very rich, it is liable to be a little longer in maturing, because of the larger growth that the plant makes under these favorable conditions· therefore it is important that under irrigation the crop be not over irrigated. If there has been plenty of moisture in the soil for the germination of the seed, as a rule one or two irrigations are enough to mature the crop, although sometimes three are required, depending upon the season; the drier the season, the more frequent the irrigation.

Under irrigation, 25 to 35 pounds per acre may be planted in rows 2 to 3 feet apart, with the seed 6 to 12 inches in the row, and at a depth of from 3 to 4 inches; though they may be planted at 5 inches if the moisture is deep in the soil. Moisture is usually the limiting factor in the production of beans. The planting may be done in moist soil or in dry soil. In other words, the ground may be irrigated before planting and the beans planted in the moist soil; or they may be planted in the dry soil and "irrigated up." The former method has certain advantages over the latter, in that the beans can be planted deeper, less subsequent irrigation will be required, and the field will be freer from weeds.

Under dry farming conditions, where there is no water for irrigation, the farmer has to depend upon the rain to raise a crop. If there is not sufficient moisture in the soil at the time of planting, then he must depend upon a subsequent rain to bring the beans up. If the seed bed has been properly prepared by plowing the land in the fall, winter or early spring, and thus conserving the winter or spring moisture, the chances of success are greater, as well as for a larger crop. About 10 to 20 pounds of seed are the amounts under dry farming, which are planted in rows from 3 to 3 1-2 feet apart, and at a depth of from 3 to 5 inches.

Beans may be planted as early as the danger of frost is over, and from then to the middle of July. By planting as early as possible the damage done to the crop by the bean beetle and mildew may be materially reduced.

Cultivation is very important, and the bean grower, either under irrigation or dry farming, should cultivate thoroughly to conserve the moisture, and to keep the weeds from crowding out the bean plants.

A good many people, particularly the new farmers in the State, may think that any kind of a bean will do to plant. The best variety to plant under our conditions, both as regards adaptability to the climate and soil as well as from the commercial viewpoint, is the New Mexico Pinto bean. This is the variety that should be planted if grown at all extensively, as it does well, and with a reasonable amount of care ought to produce a fair yield.

The bean grower should keep an eye on the bean beetle, which is probably the worst pest that this crop has.

In the southern part of the State, in the irrigated valleys where the small grains are harvested during the latter part of June and early part of July, the bean can be planted as soon as these crops have been removed. It makes an excellent succession crop for wheat, barley, oats and rye.

For detailed information on combating the bean beetle, and on planting the crop, write to the Experiment Station for bulletins 105 and 106.

FABIAN GARCIA.

# Department of Agronomy.

## NEXT YEAR'S SEED.

In a year such as this, when good seed is high in price and is difficult to secure, one should think about and plan on seed for the coming year.

There are several ways of growing seed for one's own use, none of which is very difficult nor expensive to follow.

The usual custom is to go to the feed bin, about planting time, and pick out the seed which looks best to the eye. Although one may sometimes secure good seed in this way, chances are very much against it. He is unable to tell whether the seed came from a high or low yielding plant, whether or not the plant was favored in any way—which might make the seed look better than it really was—whether the plant was uniform in type; in fact he is unable to tell anything about what kind of a crop will be produced from the seed. It is pure chance.

A better way—though not the best—is to go through the crop field about harvest time and select high yielding plants conforming to the proper type and which are growing under uniform conditions, and to save the seed from these plants for the next year's crop.

A still better way is to proceed as suggested above and then to hand pick the seed, after "winding" or cleaning it.

Perhaps the best way of all for securing good seed is to have seed plots of each of the crops generally grown on any farm. The size of the plot for each crop would depend upon how great an acreage of the crop was to be planted the next year. For managing the plots for seed one should proceed about as follows: For the first year, say 1917, select from the best available source as good seed as it is possible to secure and plant this. Just before harvest time go through the seed plots and select plants for furnishing the seed for next year's seed plots, having in mind when selecting to get plants of high yielding strains, true to type, and not favored in any way more than other plants on the same plot. This selected seed is to be used for planting next year's plots. The remaining crop on this year's seed plots is for planting the field crops for next year. Proceed with the seed plots each year in the same manner, selecting seed for the next year's seed plots and using the rest of the seed produced on the plots for planting the field crops the next year.

Seed plots of varieties of crops which will mix, as the various sorghums, should be isolated from each other, while seed plots of crops like the Pinto beans which do not mix readily, if at all, may be planted wherever convenient.

If possible the seed should be allowed to hang in a dry place, out of the way of mice, rats, etc., during the winter, and then threshed out by hand late in the spring. Small quantities of seed may be rubbed out on a washing board easily and quickly. After threshing or rubbing out the seed should be cleaned of dirt and chaff, and if possible it should be tested for germinaation.

It will not take very much of a person's time, nor will it be very expensive, to provide seed by the seed plot method. The benefits gained in larger and a better class of crops will be out of all proportion to the costs of securing this improved seed.

Too many farmers depend on others to supply their seed each year. Depending on others is what usually brings on such a shortage of good seed as occurs this year. Every farmer should grow his own seed. He can do it cheaper and can secure better seed than any one else can do it for him.

HERBERT G. SMITH,
Tucumcari Field Station.

## DON'T EXPERIMENT!

As has been previously intimated in these columns, in the present attempt to increase crop production in the State, greatest success will, no doubt, be attained by confining plantings to crops that are known to produce well in this part of the country; and while the acreage should be increased, in many cases, so much land should not be put into cultivation that the crop cannot be properly taken care of. Even soybeans, which have a wide range of adaptability, have not, so far, done well in some parts of the State. Better results are often secured from the planting of cowpeas. Aside from the fact that the climate of southern New Mexico has not proven well suited to varieties of soybeans that have been tried, rabbits are especially fond of them, and in some locations have caused considerable damage to the crop.

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Many of the farmers of the irrigated valleys of the State are planning to plant beans or other short-season crops after the small grains are harvested. If the harvesting can be done fairly promptly, there is no reason why food production cannot be materially increased by such a course, in spite of the lateness of the season.

However, in districts where it seems probable that considerable damage may be caused by the bean beetle, rust, or mildew, if beans are to be grown at all extensively it wlil be advisable for the growers, either individually or by cooperation among themselves, to take proper precautions against these pests. Methods of combating the bean beetle are set forth in Bulletin 106, recently issued by the New Mexico Agricultural Experiment Station. Ask for it.

# Department of Animal Husbandry

## FEEDING RANGE LAMBS.

One hundred and sixty-eight grade Rambouillet lambs were obtained by the New Mexico Agricultural Experiment Station from a mountain range near Engle, N. M., the middle of December, 1916, and were run for thirty days on the waste of the fields of the College farm, where their principal feed came from corn stalks and weeds; but it was rather late in the season for the latter to be eaten as readily as before the frosts, when green and succulent. During this time they were given a small allowance of shelled corn, to get them accustomed to it. At the end of the thirty-day period they were divided into four equal lots and fed on different rations for sixty days, to finish them off for market. The principal object of the experiment was to learn if lambs will clear up the weeds and make profitable use of the roughage that usually goes to waste on the average farm; and also to determine the most economical ration for finishing them for market. These lambs averaged 63.8 pounds per head when delivered at the College farm, and at the end of ninety days they had gained an average of 25.3 pounds per head; making an average gain of a little less than two pounds per head weekly, for the whole period. While running on the fields, their gains were small, but they learned to eat corn and were in a thrifty condition by the time the regular feeding began.

During the time they were in the feeding pens, on full rations, their average gain per head was 2.84 pounds per week.

The allowance of shelled corn was limited to an average of 1 pound per head daily, for three lots, and to .6 pound for the fourth lot; a less quantity being fed in the beginning, which was gradually increased to more than a pound during the closing weeks. All lots had alfalfa hay, but in two lots a part of this expensive roughage, and in one lot a part of the corn, too, was replaced by corn silage, a very much cheaper feed. The alfalfa hay was cut to 1-2 inch lengths for one lot, but for the rest it was fed whole. The gains on the silage lot, with .6 pound of corn, were a little less than on the others, but were made on 154 pounds of corn, 459 pounds of hay and 350 pounds of silage per hundred pounds; as compared with 247 pounds of corn and 436 pounds of hay per 100 pounds of gain with the lot having whole alfalfa hay; and 225 pounds of corn and 428 pounds of hay for the lot having cut hay. In the Kansas City market, all lots were classed the same and brought the same price: $15.25 per hundredweight. The purchase price was $8.00 per hundred pounds, at Engle. Calculating the feeds at the prices actually paid per ton—hay $13.00, corn $47.00, and silage $5.00—and deducting all other expenses connected with the experiment, such as freight, shipping in and out, and the loss of two lambs, but excepting labor, they made a net profit of $534.94. The profit would have been even a little larger had it not been for the fact that it was not possible to ship quite all of the lambs in a single-deck car, making it necessary to sell sixteen of them locally, at a somewhat lower price, and pay a slightly higher freight rate on those shipped.

These results indicate that, even

with the present high prices of feeds, lambs may be fed at a profit when there is a fair margin between the price of feeders and that of the finished product. At the cost of feeds given above, it was found most economical to limit the grain ration and feed corn silage in connection with the alfalfa hay. This reduced the cost of 100 pounds of gain by $1.16.

A bulletin giving the details of this experiment will be ready for distribution the latter part of the summer.

LUTHER FOSTER.

## COWPEAS FOR DRY FARMERS.

The cowpea should hold an important place in the dry-farm agriculture of New Mexico, because of its drouth resisting qualities, its large yield of roughage and its superior feeding value. On account of the fact that the seed pods ripen unevenly, the crop is more suitable for roughage than for seed, and should be harvested, for best results, when about half the pods are mature. At this stage of growth it makes excellent grazing for pigs or sheep. When cut for hay, it is essential to preserve all the leaves possible, and in order to do this, it should be raked up as soon as cut and cured in the shock. The seed is very much like the field pea, and is practically equal to it in feeding value. It will grow on all kinds of soil, increasing its fertility and leaving it in excellent condition for the succeeding crop. At the Tucumcari Field Station, the average yield for the past three years has been slightly more than one and one-half tons per acre, more than any other forage crop, excepting the Amber sorghums. For dairy cows or fattening steers, it takes the place of alfalfa hay, and a very much smaller grain allowance is necessary than with Sudan or sorghum roughage. During the past three winters, steer feeding experiments have been conducted at the Tucumcari Field Station, in which cowpea hay was compared with kafir and milo fodder, supplemented with cottonseed meal; the rest of the ration for both lots being identical, and consisting of kafir silage and ground milo heads. While the gains made by both were very satisfactory, in every instance the lots receiving the cowpea hay made decidedly the better gains. If grown for hay, the Whippoorwill variety is recommended, but if for seed, the Early Buff or the New Era. Farmers who desire to try this crop should secure a copy of Bulletin No. 104, on Dry Farming, from the New Mexico Experiment Station, which is now ready for distribution; and also a copy of Bulletin No. 108, on the Utilization of Dry-Farm Crops for Beef Production, which will be ready to send out in July.

LUTHER FOSTER.

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Skim milk, too widely looked down upon as a food, although it contains practically all the nourishing elements of whole milk with the exception of the cream or fat, can be used as a beverage, in cooking cereals, or as a basis for milk soups or sauces. Sour milk also, so often thrown away, can be used in making hot breads or in the home manufacture of cottage cheese.

Many persons regard the saving of small amounts of left-over food as unimportant. If they kept accurate account, however, for any period, many families would be astounded by the amount of good food they are throwing out and by the sums that they are paying to the grocer, butcher and milkman to replace this waste.

# The Home Department

Edited by Gail Richie, State Demonstrator in Home Economics.

## MEAT SUBSTITUTES.

We hear and read much of the evil effects of the excessive use of meat as well as of its material addition to the cost of living.

While meat is wholesome in moderate amounts and relished by most people, it is not necessary either for health or enjoyment.

The economic side of the question decides that many meat substitutes may be prepared from other body building foods that are both satisfying and economical.

People of many lands realize the great importance of cheese in the diet. The peasants, who do the hardest labor and are strong and sturdy, rarely taste meat; but use cheese in its stead. In this country it is more often used to supplement meals after sufficient proteid food has already been eaten. The complaint that cheese is indigestible arises probably from lack of thorough mastication or by its being subjected to too great heat in preparation of dishes containing it. One ounce of cheese is equivalent in food value to two ounces of lean beef; to an egg or to a glass of whole milk.

Cheese may be added quickly to cooked and seasoned rice or macaroni by cutting it into small bits and stirring it in with the milk until it forms a creamy liquid. There is less danger of over cooking by this method than by baking.

### English Monkey.

1 cup of stale bread crumbs

1 cup of sweet milk

I tablespoon butter

1-2 teaspoon salt.

1-2 cup of soft mild cheese cut in small pieces

1 egg

Few grains of cayenne.

Soak bread crumbs 15 minutes in the milk. Melt butter, add cheese and when cheese has melted, add soaked bread crumbs, egg slightly beaten and seasonings. Cook three minutes. Pour over crisp lightly buttered crackers.

Every country has some representatives of the legume family, the most widely appreciated as meat substitutes being beans and peas. Daniel of old, grew comely and strong on pulse and water, which he preferred to the King's meat and wine.

Here again digestibility is a matter of preparation and the amount consumed. Soaking in soda water over night, or better, adding one-half teaspoon of soda to two quarts of water, and one pound of beans when boiling, renders them more digestible. This par-boiling water should be drained off when the beans are beginning to soften and fresh boiling water added with seasonings to complete the cooking. Bean salads are hearty and appetizing. Cream of bean soup is an excellent meat substitute.

### Cream of Bean Soup.

3 cups of cold boiled or baked beans

2 cups of hot water

2 cups of milk

1 large slice of onion

2 tablespoons of butter

2 tablespoons of flour

1 teaspoon of salt

Few grains of pepper.

Add hot water to beans and rub through a sieve. Scald milk with onion. Remove onion and add milk to beans. Thicken with butter and flour cooked together. Add salt and pepper.

Among the cereals corn makes a well balanced dish in the following recipes:

### Corn Pudding.

1 can of corn
1 1-2 cups milk
3 eggs beaten separately
1 teaspoon salt
2 teaspoons sugar
1 teaspoon butter

Rub the baking dish with the butter. Add seasonings and beaten yolks to the corn. Add milk and fold in the stiffly beaten whites. Place the baking dish in a pan one-third full of hot water and bake as you would a custard. Six large ears of corn will make the same amount.

### Corn Oysters.

1 can of corn
1 egg
1 cup of dried and sifted bread crumbs
Seasoning of salt and pepper.

Add beaten egg with seasonings to the corn. Stir in the crumbs and drop by small spoonfuls into hot fat. Fry brown and crisp. Drain on paper and serve hot.

Fish furnish an economical source of protein diet even inland. Tuna is excellent creamed or in salad, while salmon may be served in many acceptable ways.

### Potato and Salmon Croquettes.

Mix equal parts of hot mashed potatoes and salmon. Season with salt and pepper. Shape and dip in dried sifted crumbs, then in beaten egg and water equal parts, then in crumbs again. Fry in deep fat and drain on paper.

The increasing sales of nuts show a growing appreciation of their value in the diet. Being such a concentrated food, it is best to use them with fruits and vegetables.

Nuts should not supplement an already sufficient meal. Nut bread sandwiches may adequately replace those made with meat.

### Quick Nut Loaf.

2 cups flour
1-2 cup sugar
4 teaspoons baking powder
1 teaspoon salt
3 tablespoons butter
2 tablespoons lard
1 egg
Yolk of one egg
1 cup milk
3-4 cup English walnuts

Use all ingredients in level measurements.

Mix and sift flour, sugar, salt and baking powder. Work in lard and butter with fingertips; add egg and egg yolk well beaten, milk and chopped walnut meats. Beat thoroughly and turn into a buttered bread pan. Let stand twenty minutes. Bake in a moderate oven 40 minutes.

The following bulletins on this line may be had from the Department of Agricteulture, Washington, D. C.:

Farmers' Bulletin 487—Cheese and Its Economical Use in the Diet.

Farmers' Bulletin 128—Eggs and Their Uses as Food.

Farmers' Bulletin 413—Milk and Its Use in the Home.

Farmers' Bulletin 121—Beans, Peas, and Other Legumes as Food.

Farmers' Bulletin 85—Fish as Food.

Farmers' Bulletin 332—Nuts and Their Uses as Food.

CARRIE PADON PHELPS.

## SAVE YOUR BOTTLES.

### Shortage of Cans and Jars Threatened—Preserve Jams, Jellies, and Fruit Juices in Bottles.

The home canning specialists of the United States Department of Agriculture urge every housekeeper to save bottles—especially wide-necked ones—for putting up fruits, preserves, jellies, jams, and fruit juices. Saving of bottles is highly important, they say, as there threatens to be a serious shortage of regular jars and preserving cans this season.

The fruit products named, if sealed with corks and paraffin, can be kept perfectly in these makeshift containers. Jellies, jams, and preserves can be kept even in ordinary drinking glasses, by the use of paper and paraffin. Fruit juices should be packed in ordinary small-necked bottles.

Vegetables, soups, and meats, on the other hand, to keep must be sealed by the usual fruit-jar or tin-can packing methods. Reserve regular containers for foods that can not be packed in bottles.

> A serious shortage of preserving jars and cans is threatened.
>
> Glass bottles — especially wide-necked ones—are useful for putting up fruits, jellies, and preserves.
>
> Put up fruit in ordinary bottles.
>
> Reserve regular preserving jars and cans for canning vegetables, soups, and meats.—United States Department of Agriculture.

The specialists are also urging all members of canning clubs and others not only to can products, but to dry and evaporate all such products as apples, pumpkin, and squash. They advise strongly that if containers are scarce locally, those in stock should be used to preserve perishable products which have the highest nutritive value. Nothing should be packed in jars or cans which can be conserved effectively in other ways.

Candy containers or other glass jars with screw tops or glass stoppers, and in fact any receptacle of glass, crockery, or porcelain, can be sealed with cork or paper and paraffin.

Large tin canisters or tin cans with removable covers, provided the body of the containers is air and water tight, will be found useful in canning certain fruit products. Such containers can be sterilized and their covers hermetically sealed in place with solder or wax.

## SUGGESTIONS FOR THE FLY CAMPAIGN.

Kill as many flies as possible when they appear in spring. These first flies are the parents of the millions of germ-laden flies that will make life miserable thruout summer. One fly killed early in the spring is equal to millions killed in August or September.

Endeavor to prevent flies from breeding on the premises. Some flies will escape because they will breed in decayed vegetable matter or in the droppings of animals in the pastures. However they will be almost negligible.

Fly traps are essential. They catch the flies coming from breeding places and thus prevent their migrating to the house.

Enlist the cooperation of all dealers in food suplies. Show them the danger from flies and what may result from unsanitary surroundings of their premises. If necessary, patronize only those dealers who keep their premises and their products properly screened. They will soon clean their premises and eliminate flies if the campaign is brought to them in this financial light.

Missouri College of Agriculture.

# Boys' and Girls' Club Work

W. T. Conway, State Leader.

## CANNING DEMONSTRATIONS IN SEASON.

It is the purpose of the State Club Leader to give a canning demonstration before every Garden and Canning Club in the State.

To do this the work will have to be well organized and a schedule will have to be arranged from two to four weeks ahead of time.

Leaders of Garden and Canning Clubs should send us, at once, the dates between which it will best suit their convenience to hold a Canning demonstration. We wish to begin just as early as possible so as to give time to reach all communities desiring help.

These canning demonstrations are not for club members alone, but for everyone in the community. The canning of fruits and meats may de demonstrated as well as for vegetables. Canning receipts will be furnished either from the State Club Leader's office or from the office of State Demonstrator in Home Economics.

Now is a good time for communities to organize Mother-Daughter Canning Clubs. A mother and daughter make a demonstrating team. Five or more such teams may organize a Club. Where a mother has no daughter, she may borrow one from her neighbor who has one to spare. Each Mother-Daughter team will be expected to can at least 100 quarts, including fruits, vegetables, soups and meats. Our slogan is, "Can it if you can; but if you can't can it, we can."

## 4-H BRAND LABELS.

The four-leaf clover with a letter H on each leaf is the National Emblem for the Boys' and Girls' Clubs. It is the Club trade-mark. Only club members are permitted to use it; and the products sold under the 4-H Brand must be up to standard in appearance, weight and quality.

These labels are printed in double colors of green and gold and are made in different sizes and for various products. They range in price from a fraction of a cent to a cent each, depending on the size. They are put up in books or boxes and are already gummed for sticking.

Where Club members wish to put their products on the market it is advisable to use these 4-H labels. Any Club member who standardizes his products may sell them under the 4-H Brand. This gives his products a trade name and customers learn what to call for. It makes a business of the marketing end of Club Work and helps to sell Club products when once the trade knows the 4-H Brand. Any Club member who abuses the privilege and tries to sell inferior stuff under the trade-mark, will be deprived of using the 4-H Brand.

Club members who would like to use the 4-H labels, should write the State Club Leader for permission.

## CHANGING CLUB PROJECTS.

It is a rare thing that we advise a Club member to give up one Club Project, after it has been started, in order to take up another. We have been brought up in the teaching that it is a good idea "to stick to your job till it is finished," and, "one thing at a time and that done well is a very good rule, as many can tell".

But in an emergency, rules must be subordinate. Hence, we commend those girls who have given up their Sewing Club Work to grow gardens and to learn the canning of vegetables. Necessity demands it. There is little danger of over-production of foodstuffs this year.

### SEWING CLUBS, ATTENTION!

Our Sewing Club members would do well to offer a certain portion of their time and services to the nearest Red Cross Society to help prepare "first aids to the injured". In this way our Club girls can be of real service to their country. At the same time they may be making "credit hours" for their Sewing Club records. Such credit hours should be recorded separate and distinct from "hours of home sewing". Those girls who work for the Red Cross should record it on Page 9 of their record books, and count it as wages.

Wherever it is possible to do so, let our Sewing girls show their patriotism by helping the Red Cross.

### CROPS AND GARDEN PROJECTS STILL OPEN

Last month it was announced in the "Courier" that boys and girls should be permitted to join the Field Crops and Gardening and Canning Clubs just as long as crops and gardens could be planted. These projects are still open, and we are still urging New Mexico boys and girls to grow something to eat.

Never was the opportunity so great to be both patriotic and to make money at the same time. All foodstuffs are high priced and the world needs food, food, Food! Thousands rose from their poor couches hungry this morning and thousands will go to bed hungry tonight. How long will New Mexico boys and girls permit fertile lands to lie idle when they might be growing excellent crops? How long will our boys and girls be indifferent to the sufferings of humanity when they have such a splendid opportunity to help relieve that suffering?

Where it is possible, each Field Crop Club member should plant two acres of beans, corn, milo or Kafir, instead of one. If it is not possible to plant more than one acre, then the Club members should make that one acre do its very best.

Cultivate thoroughly so a weed will not have a chance to grow. Make war on the weeds and defend your crops!

Garden Club members should grow plenty of green beans, corn and tomatoes—not only for summer use but enough to can for the winter. Each member should plan a rotation of crops so that late cabbage, beets, carrots and turnips may follow the earlier plantings as soon as the latter are gone. Pumpkin and squash may be dried or canned, and cucumbers may be pickled. All of these are easily grown. Cabbage and root crops may be hilled up to prevent freezing in the winter and thus we can have fresh vegetables the year round.

There will be many calls for fruit jars this summer. We advise our Garden Club members to buy their jars now and have them ready. If they wait till the vegetables are ready to can, the supply of jars may be short and the vegetables may be too old before more jars can be ordered.

Vegetables and fruits must be canned at the right time for the best quality. Our Club members should always have their products up to standard. Such products may be sold under the 4-H Brand.

# LET NOTHING SPOIL

Heat, dirt, improper handling, flies, insects, and rats or mice are the greatest wasters

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### Keep Perishable Food Cold

Keep perishables cool, clean, and covered.

The moment meat, fish, milk, and eggs are allowed to get warm they begin to spoil.

Bacteria and germs multiply rapidly in slightly warm food, and quickly make it dangerous or unfit to eat.

Keep perishable foods in the coolest, cleanest place you can provide, preferably in a good refrigerator or ice house, but, at any rate, in covered vessels suspended in the well, or in the coolest clean place in your home or cellar.

Do not keep perishable foods in a hot kitchen or pantry or in a sunny place a moment longer than is necessary.

Dry cold is a better preservative than damp cold.

### Keep Food Covered and Clean

The dust particles in the air carry molds and germs.

Meat, fish, and milk are ideal breeding grounds for such germs. Keep your food covered so that these bacteria and germs will have as little chance as possible to get on your food.

House flies—better called "typhoid flies"—are among the dirtiest things that enter our homes. They fly from sewers, privies, and manure heaps, carrying filth on their feet, which they deposit on any food on which they alight. Frequently germs of typhoid fever are carried by flies in the filth on their bodies, and in their excrement (flyspecks).

Ordinary cleanliness demands that flies be kept out of our homes and away from our food.

Health protection makes it essential to banish flies. Keep all food covered, or at least screened from these carriers of deadly disease and filth. Destroy flies by every possible means.

### Guard Food Against Vermin

Rats and mice destroy millions of dollars' worth of food and other property every year in homes or farms, and in business establishments. Many rats harbor the germs of bubonic plague. Trap and kill them. Look upon every mouse as an enemy to your property.

Eradicate roaches and house ants.

### Keep weevils out of cereals.

Keep your food where such pests can not reach it.

Keep household pets away from food.

### Store Vegetables and Fruits Properly

Don't let fresh vegetables or fruits wilt or lose their flavor or begin to rot because they are handled carelessly. Keep perishable vegetables in cool, dry, well-aired, and for most vegetables, dark rather than light places.

Learn how to store potatoes, cabbages, root crops, fruits, and other foods so that they will keep properly for later use.

Don't think that any place in the cellar or pantry is good enough to store food.

Heat, dampness, poor ventilation, bruising, or breaking will rapidly make many vegetables rot, ferment, or spoil. Warmth and light make vegetables sprout and this lowers their quality.

### Can or Preserve Surplus Vegetables and Fruits

When there is a surplus of fruits or vegetables that will spoil if kept, cook or stew them and keep them cold and covered for use in a day or two.

Can or preserve all surplus food from gardens for winter use. In a morning's work with ordinary home utensils, you can put up many cans of vegetables and fruit for winter use. If you have no garden, watch the markets. When any fruit or vegetable that can be canned becomes plentiful and cheap, buy a quantity and can it for home use next winter.

## BE A FOOD CONSERVATOR

Write to-day to the U. S. Department of Agriculture or to your State agricultural college for full information as to how to keep food in the household and how to can and preserve all surplus fruits and vegetables.

## Demonstrate Thrift in Your Home

*Make Saving, Rather Than Spending, Your Social Standard*

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# THE NEW MEXICO FARM COURIER

VOL. V. JULY, 1917. NO. 8.

Dwarf Black-hulled Kafir at Tucumcari Field Station.

Published Monthly by The
Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M.

In Cooperation with the U. S. Department of Agriculture.

# THE NEW MEXICO FARM COURIER

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AUSTIN D. CRILE.. President of College
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY....Director of Extension

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## WAKE UP, NEW MEXICO!

Nobody likes statistics, and to the average person they mean little more than an unintelligible array of figures; so the statistics contained in this article will be found in the first paragraph, and they will be brief—brief, but potent with meaning to the people of New Mexico. Only three states in the Union, Texas, California and Montana, are greater in area than New Mexico. The land area of the State is 122,503 square miles, or 78,401,920 acres. The water area amounts to only 131 square miles. So for every acre of water there are 935 acres of dry land, exceedingly dry land. In 1914, the population of the state was 383,551. Therefore, for every man, woman and child in New Mexico, there are more than 204 acres. Because the state is so arid, and also for the sake of argument, let us divide this number by 100. The result is two acres, and it is safe to say that for every person there are two acres of land that are, or can be made, highly productive of farm products. This assumption leaves practically the entire state free for the pursuit of raising cattle and sheep, and much of the land is well adapted for this purpose.

Perhaps never in the history of our country has so much interest been manifested in the problems of agriculture as at the present time. With the entire civilized world engaged in war or the preparation for war, the task of feeding the soldiers in the trenches, the soldiers in training and reserve, and the men, women and children at home is well nigh overwhelming in its magnitude. In order that everybody may be properly fed, clothed, and sheltered, it is absolutely necessary that everybody shall contribute his share to the work. To expedite matters, the Department of Agriculture, through its agents and experiment stations, is creating an effective organization to mobilize the nation's agricultural resources. It is the duty of everybody who is not actually bed-ridden to give his most patriotic co-operation to this move.

The people of New Mexico will not fall behind the people of the other states. They are awakening to the crying need that this war has brought about. They will become more alert and wider awake as they learn more of the existing conditions. Perhaps the following sentence or two will prove to be an awakening jolt to many of our citizens; the farmers, especially. The state of New Mexico does not produce sufficient food, outside of beef products, for her own population. She does produce sufficient beef for her own needs and has a surplus supply for the other states. But when she wants wheat, she has to call on Kansas or the Dakotas; and when she wants vegetables and fruit, she sends to New York or Indiana for vegetables and fruit preserved in cans. She stands beside Belgium in her cry for bread, and this in the face of the fact that for every man, woman and child in the state there are 204 acres of land, two of which, estimating very conservatively, are or can be made highly productive of farm products The task of the Nation is stupendous; New Mexico faces a stupendous task; and pride in our great state should spur us on to a greater agricultural effort, an effort that in another twelve months will take us out of the bread line. NEW MEXICO WAKE UP!

J. W. JOURDAN,
Instructor in Irrigation Engineering.

## IS THERE DANGER OF OVERPRODUCTION?

"Some farmers have feared overproduction. This fear might be justified were it not for the conditions in Europe. All of Europe is approaching famine conditions, and there is no chance that farmers of Europe can give the care necessary for the production of the best crops. Large quantities of food are being lost at sea. The world's reserve of food is probably the lowest in history. The grain on farms in the United States on March 1 is 700,000,000 bushels below last year. The quantity in elevators is much short of last year. The wheat crop that has just been harvested in New Zealand, Australia and Argentine is estimated at only 70 per cent of last year's crop. The winter wheat of the United States is in poor condition.

"If as low yields of grains should occur this year as occurred in 1901 conditions would be very serious. If we get as good crops as in 1912, which were the best in twenty years, there would be no chance of low prices for grains."

## HEALTH IS WEALTH.

(By the U. S. Public Health Service.)

Mr. Citizen, have you taken into consideration, in making plans for your material welfare during the coming summer and fall, that the health of yourself and your family may determine whether or not this is to be a successful year for you? If you are a merchant, have you stopped to reflect that a case of typhoid fever in your family will affect your assets in exactly the same way as the loss of a valuable shipment of merchandise? If you are a farmer, has it occurred to you that such an illness may offset the value of a bountiful crop on many acres of your land? If you are a wage earner, have you considered that illness of yourself or a member of your family will materially affect the plans you have made for the investment of your savings?

You have thought, of course, of how unfortunate it would be for such illness to "happen" in your family. You have insured your merchandise against loss. You have insured your house and barn against fire. You have perhaps even taken out an insurance policy to provide for the necessities of life for your family in case you become ill. But have you given to the question of preventing such illness the thought and study that so important a matter deserves? And many of our most serious and costly diseases are entirely preventable.

The United States Public Health Service devotes much of its time and effort to the study of these preventable diseases, and has issued numerous publications containing the fundamental principles of disease prevention. The titles of a few of these publications are here given. Any or all of them will be sent to you free of charge on request, from the Public Health Service, Washington, D. C.

Good water for Farm Homes. Public Health Bulletin No.70.

Typhoid Fever—Its Causation and Prevention, Public Health Bulletin No. 69.

Prevention of Malaria, Reprint No. 170.

The Preventation of Pellagra, Reprint No. 307.

Tuberculosis — Its Predisposing Causes, Supplement No. 3.

Hay Fever and Its Prevention, Reprint No. 349.

Infantile Paralysis, Reprint No. 350.

Malaria—Lessons on Its Cause and Prevention. Supplement No. 18 (for use in schools).

Fighting Trim—The Importance of Right Living, Supplement No. 5.

What the Farmer Can Do to Prevent Malaria, Supplement No. 11.

The Care of the Baby, Supplement No. 10.

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## RECENT PUBLICATIONS.

During the present year the following publications have been issued by the different divisions of the New Mexico College of Agriculture and Mechanic Arts. Copies of any of these can be secured free of charge by addressing the College at State College, N. M.:

### Circulars.

Preservation of Eggs in Water Glass

Use of Left-over Meats in Cookery.

Storing Vegetables for Use in Winter.

Preservation of Fruits and Vegetables by Drying.

Ways of Using Corn Meal.

Uses of Beans in the Diet.

Canning Peas and Other Vegetables.

### Press Bulletins.

No. 272, Peanut Culture.

No. 273, Cotton Culture.

No. 274, Alfalfa on Mesa Soils.

No. 275, Seasonal Pruning of Apple Trees.

No. 276, Codling Moth Life History Investigations for 1916.

No. 277, Value of Mesquite Beans for Pig Feeding.

No. 278, Efficiency of Sprayers.

No. 279, Sudan Grass for Pasture.

No. 280, "The Army of the Hoe." (In Spanish.)

No. 281, Crops for Altitudes of Less than 6,000 Feet. (In English and Spanish.)

No. 282, The Bean Beetle. (In English and Spanish.)

No. 283, The Irish Potato. (In English and Spanish.)

No. 284, Planting Beans. (In English and Spanish.)

No. 285, Corn Culture.

No. 286, Field Treatment for the Control of Potato Diseases.

No. 287, Seed Treatment for Control of Potato Diseases.

No. 288, Chile Blight.

No. 289, Chile. (In English and Spanish.)

No. 290, The Drying of Green Chile, Summer Squash or Pumpkin, and Corn. (In English and Spanish.)

### Bulletins.

No. 104, Dry Farming in Eastern New Mexico.

No. 105, New Mexico Beans.

No. 106, The Bean Beetle.

No. 107, Sugar Beet Culture.

In addition to the above, the College catalog for the year 1917-'18 was issued a few weeks ago. This explains in detail the courses offered, concerning necessary expenses of attending the College, etc. A copy will be sent promptly on request to any one who contemplates going away to school the coming fall.

## FARM MACHINERY.

Who gets the profits of farming? When the pie is cut, one large slice goes to the machinery manufacturers. Farmers are consummate buyers of machinery. Not that we would have them revert to hand implements. But most of the new machinery is to replace machines that are abandoned. Why abandoned? Much machinery is thrown aside because certain portions of it are unserviceable, but more machinery rusts out than wears out and in our climate the wooden portions check and split and depreciate very rapidly.

Machinery should be stored under cover when not in use. Some sort of shed is needed. For Southern Arizona I should say adobe walls, raised dirt floor and roof with timber frame and galvanized iron cover. In some cases the adobe walls should be left out except for a room for tools at the end. Since more damage is done by the sun than by rain, the inexpensive Mexican "ramada" can be recommended also. These ramadas are built of small tree trunks or limbs for posts, stringers and rafters, and willow branches, watamotes or other renewable stuff for a covering. The prevailing wind side should be enclosed.

The wise farmer keeps his machinery in good repair, cleaned and properly lubricated. Loose bolts are the biggest cause of broken and lost parts. Neglected, gummy places should be cleaned up, some parts need repainting, others should have the rust removed and a light application of oil applied. The time for repair work is not in the busy season. Put all machines in good condition during the dull season. A work bench and forge in the end of the machinery shed will pay 100 per cent on the cost.

There is an advantage in buying from reliable, established dealers who will deliver the machinery all set up and adjusted, and who carry a line of supplies.

G. E. P. SMITH,
Irrigation Engineer, University of Arizona.

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The pasturing of corn is especially applicable to semiarid regions. The dry soil is not injured by the animals and very little corn goes to waste or spoils by coming in contact with the soil. The stalks are left in good shape to prevent the drifting of soil

# Department of Animal Husbandry

## APPLIED PATRIOTISM FOR THE MILK ROOM.

War time will mean food shortage. Besides making every effort to increase food production, we must eliminate all the little wastes and losses. The small losses on the millions of farms of the country amount to stupendous totals. The average American farm wastes enough to provide the sustenance for a family, and the dairy farmer is no exception to the rule. Here are some of the common sources of loss in the milk room, all preventable.

Butter-fat left in the skim-milk by hand skimming or by separators worn or out of adjustment.

Cream lost in the separator bowl, on the sides of other vessels, by spilling, by leaky churns and by becoming contaminated through careless handling.

The souring of milk because of lack of cleanliness, being put in unsterilized vessels, and by inefficient cooling. The souring of milk from being put into unsterilized cans alone is a tremendous loss. Just a few cans of sour milk mean less milk for many families, and will cause enough loss to the producer to pay for a small steam sterilizer. The Government Dairy Division has designed a simple steam sterilizer for small dairies, one that can be constructed by the local tinner; costing only a few dollars. This sterilizer is described and pictured in Farmers' Bulletin No. 748, copies of which may be obtained free from the Secretary of Agriculture, at Washington D. C., or from the Dairy Extension office at the State Agricultural College. The importance of sterilized cans and of quickly cooling the milk immediately after it is drawn, are not fully appreciated. Quick cooling is very much more effective than slow cooling. Now is the time to clean up and equip the milk room to prevent the losses and wastes in your dairy.

R. W. LATTA.

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## "Many a Mickle Makes a Muckle."

## A PAT OF BUTTER.

One pat or serving of butter is a little thing—there are about 64 of them in a pound.

In many households the butter left on the plates probably would equal one pat, or one-fourth of an ounce, daily—scraped off into the garbage pail or washed off in the dish pan.

But if every one of our 20,000,000 households should waste one-fourth of an ounce of butter daily, on the average, it would mean 312,500 pounds a day—114,062,500 pounds a year.

To make this butter would take 265,261,560 gallons of milk—or the product of over half a million cows.

But butter isn't eaten or wasted in every home, some one objects. Very well. Say only one in 100 homes wastes even a pat of butter a day—over 1,000,000 pounds wasted. Still intolerable when butter is so valuable a food and every bit of butter left on a plate is so useful in cookery.

The United States Department of Agriculture, Washington, D. C., or your State agricultural college will tell you how to use every bit of butter in cookery.

## THE EGG EATING HABIT AMONG HENS

It is common belief that the egg eating habit among hens is caused by the absence of some element from the food, ordinarily lime or animal food. This is, however, not the common cause, although it may be a cause. The habit usually starts in the spring during the heavy laying season or in the fall when the pullets are beginning to lay. During these two seasons there is a greater number of soft shelled eggs caused by the shell secreting portion of the oviduct failing to function in correlation with the other reproducing organs. Therefore from either cause the egg eating habit is developed by bad management or accident.

To correct this habit it is not necessary to kill the hen or to feed her eggs filled with gentian, or mustard, or ammonia, or other disagreeable substances. Remove the cause and the habit will soon be forgotten. If yolk of egg is noticed on the beak or breast feathers of the hen, or if there is a noticeable drop in egg production, or if there are signs of broken eggs in the nests and on the droppings board it is time to be looking after the egg eating habit.

Nothing should be left undone to break the hens of this habit immediately upon discovery If the hens are being fed the egg shells from the house make sure that the shells are crushed so that their identity is destroyed. Do not discontinue feeding them, as they are an excellent source of mineral feed. Clean the nests and see that there is a sufficient quantity of cut straw or chaff in them for nesting. Darken the nests by hanging burlap curtains in front of them or face them so that the entrance is from the side next to the wall. Make an inspection of the droppings board at sunrise and remove any eggs that may have dropped during the night. Gather the eggs at hourly intervals during the day for a week.

As precautionary measures supply the hens with a sufficient number of roomy nests. Feed an ample amount of clean, wholesome food in such a manner as to induce exercise. Keep the hens busy on the range or in the yards so that they will have no desire to be around the nests except when laying. Put the nests about two feet from the floor and use all possible means to prevent the hens from laying on the floor or on the droppings board. Pay heed to the action of the hens making careful observation of them at all times.

R. B. THOMPSON,
Poultryman.

## SICK HOGS.

**Act Quickly When Hog Cholera Is Suspected—Anti-hog-cholera Preparedness Urged.**

Don't take a chance with a sick hog. Act quickly. Get a veterinarian or a trained man immediately. Don't wait a single hour when you suspect disease in your herd. Use the telephone or send to town at once. Only prompt action will stop hog-cholera losses. Every hog saved will help win the war.

This is the message of tremendous importance which the United States Department of Agriculture is carrying to farmers, not only in the great hog belt included in Iowa, Missouri. and Illinois, and near-by states, which produce 34 per cent of the hog output of the United States, but also to farmers of the South, where in several states in 1916 hog losses due to cholera rose to two to three times the average losses for the country. Hog losses in 1916 by disease rose to 130 per 1,000 in Arkansas, 105 in Louisiana, 100 in Florida, 80 in Georgia, 76 in Tennessee, 70 in Alabama, and 65 in Mississippi, against an average of 48 per 1,000 for the entire country. At least 90 per cent of these losses were attributed to hog cholera.

The time for argument about anti-hog-cholera serum is past, declare the specialists of the Bureau of Animal Industry, United States Department of Agriculture. Explicit figures are readily available which prove unmistakably that, when administered in time by competent persons, hog-cholera serum will keep well hogs from taking the disease for a period of three to six weeks. Not argument but quick action is imperative to get serum and a trained operator to the farm to treat the hogs. Hogs will be saved and the Nation's meat supply increased if every farmer will immediately upon sign of disease call in the nearest available expert to diagnose the complaint and administer whatever treatment is necessary.

The Department of Agriculture is urging that all state, county, and local livestock interests, including state veterinarians, livestock boards, state college workers, county agents, and local veterinarians, begin immediately to organize anti-hog-cholera preparedness campaigns to reach every farmer in every county. Such organization already exists in many places. Where it does not there is need of special and immediate action before the hot weather conditions favorable to hog cholera come on.

Bankers and other business men can aid in the work of informing farmers where they can get expert help immediately when they suspect cholera in their herds. Lists of accredited persons competent to diagnose cholera and administer serum, together with their addresses and telephone numbers, should be furnished to each farmer in the county, with the appeal that he call for help at once in case of need. Business men may also arrange through the local veterinary authorities or county agents to buy serum at the nearest state serum plant, private plant, or serum depot, and hold it in reserve for emergency use. State and federal animal industry authorities should be notified at once by telegram of any outbreak.

Because a single outbreak of hog cholera on any farm is a matter of moment to the entire community, and because hog-cholera infection is rapidly spread in many ways, the Department of Agriculture is urging farmers to employ every possible measure to keep the disease out of their herds. The department has issued a special hog-cholera poster—"Stop Hog-Cholera Losses"—which gives specific directions for avoiding infection by sanitary and self-quarantine measures; also directions for the isolation and treatment of cholera-infected hogs, and directions for disinfection and re-stocking the hog lot. Farmers' Bulletin 834, soon to be published, contains the latest information at the command of the United States Department of Agriculture concerning hog-cholera prevention and the immunization of hogs against the disease.

## GRAZING PREFERENCES PROTECTED.

In responce to an inquiry from the National Wool Growers' Association, the Forest Service has announced that stock growers having National Forest grazing preferences will be permitted, if they enlist in the army or navy, to retain their preferences without use of the range during the period of enlistment. Those wishing to avail themselves of this privilege will file a statement similar to that now required of state and federal employes who wish to discontinue use of the range during their term of service without losing their preferences.

Use of the range in their absence will be provided for by issuing temporary permits to others, with the understanding that the privilege of use terminates when the former permittee returns. Preference privileges temporarily surrendered are subject to any general changes affecting range use which may be made during the absence of the holders.

## THE THERMOMETER IN THE DAIRY.

A good thermometer should be constantly at hand around the dairy. The temperatures at which milk, cream and butter are kept, and at which the various operations of separating, feeding, and testing the milk, and making butter are carried on, are of great importance.

When milk is sold it should be immediately cooled after milking, to a temperature of 50 degrees F. or lower, to prevent the growth of bacteria which will spoil the milk. At fifty degrees Fahrenheit one single germ, or bacterium, might produce four or five germs in twenty-four hours, but at seventy degrees, each germ might become several thousand in twenty-four hours.

If the cream is to be separated by a centrifugal separator, it should be run through the machine fresh from the cow, while still warm, at a temperature around 90 degrees Fahrenheit. If the milk is to be creamed by gravity, it should be cooled to about 50 degrees Fahrenheit soon after milking, as this results in a more thorough separation of the cream, and in a better quality cream and skim-milk. The skim-milk fed to calves should be warm, 85 degrees to 90 degrees and fresh from the seperator. If the milk is not always about the same temperature, digestive troubles are apt to result in the calves.

Temperatures are very important in making the Babcock test for butter-fat in milk or cream. Samples can be more thoroughly mixed when warm, but should not have the sulphuric acid added until cooled to about 70 degrees F. Too cold samples or acid will cause trouble in testing. Nor should they be too warm; about 70 degrees is right for both the acid and the milk sample. The hot water added to the test should be as hot as possible, and the test should never be read until it has stood three to five minutes in a hot water bath at a temperature between 135 degrees and 140 degrees F. and the fat in the neck of the test bottle must be under the level of the water.

The temperatures of cream, wash water, and salt, are of great importances in making butter, and no one should attempt to make butter without constant use of a good reliable thermometer. Cream should be churned at a temperature between 52 degrees and 64 degrees F., depending on the time of year, richness of the cream, time it takes to churn, and hardness of the resulting butter. When once the best temperature is determined it should be followed closely until conditions change, as shown by the different time that it takes to churn, and the condition of the butter. The wash water should never be but a few degrees from the temperature of the buttermilk, and the salt will be dissolved better if at about the same temperature as the butter. The temperature for churning should be regulated so that the butter will come in about twenty-five minutes.

A good dairy floating thermometer can be bought for twenty-five to forty cents, and no dairyman should be without one.

R. W. LATTA.

## KILLING OF CALVES CAUSE OF MEAT SHORTAGE

### Country is Paying the Price of a Foolish Practice and Should Profit by the Lesson

"Men are but children of a larger growth," and cows were but calves three years ago. Again comparing human and real cattle we are reminded of the effect of war upon the standards of the human race, physically, numerically and otherwise, anent the war on heifer calves and the inevitable beef and milk shortage.

Recent legislation making it unlawful to slaughter female cattle has caused us to sit up and take notice. If it is bad economy to slaughter calves, and thus endanger the food supply, in time of war, the question arises whether or no the same economic principal does not obtain in time of peace. Argentine has long since made it a felony to slaughter heifer calves. If we kill all the calves it is only a question of time before we will have no cows. Is it not a "penny wise and pound foolish" policy to kill the future cow in order to get the dirty dollar in our hand right on the spot. The farmer gets the dollar or two for the calf, and sixteen cents a gallon for his milk in thirty days and this knocks him off his economic perch. Keeping the calf until it becomes a cow means an investment with slow returns, but with mighty satisfactory returns considering the present prices of good milch cows.

So now behold the inevitable drouth and famine from cutting off the stream at its source. Yes, the fact cannot be denied that we have killed so many calves that both our milk suply and our meat supply is on the blink and a good milch cow is almost worth her weight in gold.

Here is the proposition: In the long run, is a cow's milk too valuable to feed to a cow's calf?—Geo. H. Glover, Colorado Agricultural College Fort Collins, Colo.

Practically no injury to alfalfa from summer heat has been recorded in dry climates, but high temperatures combined with much moisture in the atmosphere are so injurious that it is difficult to grow the crop successfully under these conditions.

Vegetables and fruits often are stored in quantities in hot, damp, and poorly ventilated bins and under conditions which hasten wilting, fermentation, and decay.

# The Home Department

Edited by Gail Richie, State Demonstrator in Home Economics.

## CONCERNING OUR COUNTY DEMONSTRATORS.

In sending out a number of County Demonstrators for the summer months our State College is merely doing for the first time what older State Colleges have done for many consecutive summers.

The exigencies of the war situation have somewhat changed the line of work, concentrating it on increased food production, better conservation and more economical use of foods.

All State Colleges have been handicapped for the first summer or two, by lack of organization and by the newness of the work. These handicaps have been gradually removed. In these older State Colleges the new problems for the summer are identical with ours, but in addition to this work they are placing a woman county agent in each county of their respective States to work the year round with the women as do the County Agricultural Agents with the men.

Our State College is facing all these problems at once and in New Mexico the situation is further complicated by the presence of large centers of Spanish speaking people, by the great poverty of some sections, by the immense distances that have to be covered by our Demonstrators and by the lack of organization of the State for this work.

In times past, Home Economics Extension workers in other states have met and occasionally contended with Parent-Teachers' Associations, Women's Clubs, Civic Improvement Clubs, etc. To what extent such clubs in other states have dedicated themselves to the National Defense movement, I do not know. Since meeting and talking with representative women in Santa Fe, it is evident that in New Mexico the Women's Auxiliary of the Council of Defense seem to have dedicated their time, energy, money and trained minds to the most practical forms of patriotic service.

The Home Economics Extension Workers from the State College are planning to co-operate in the very work these Women's Auxiliaries are doing. In every community where the women of New Mexico have formed a live working organization, the Home Economics Extension Workers will be only too glad to work with those organizations. We both hope and believe that in time these volunteer workers will feel that they can gradually shift much of their burden onto the shoulders of the women who are trained and being paid to carry on this work. When the pressing needs of this war emergency grow less there will still remain a wide field of work for these Home Economics Extension women from the College—a line of work that has been successfully prosecuted for years in many of our sister states—work so important and far reaching that the United States Government is organizing the work and is demanding results.

## THE DRYING OF GREEN CHILE, SUMMER SQUASH OR PUMPKIN AND CORN

The following are some of the common New Mexico ways of drying these vegetables:

### New Mexico Green Chile.

Take full grown, green pods, preferably those that are smooth and have no shoulder at stem. Cut off end of each pod, for steam to escape. Place them in an oven or on a toaster over coals. Keep the heat up, so as to blister the thin skin on the pods. Turn them over occasionally, until all of the skin has been thoroughly blistered. Remove pods from the fire; cover them with a cloth and let them partially cool; then remove the blistered skin with the thumb and forefinger. Remove also the stem, seed and placenta; though this is not absolutely necessary. Put the peeled pods on boards, or on anything where they may dry thoroughly. Place them in the sun, turning the pods over after the first day or two, to prevent their sticking to the board. In a few days, when thoroughly dried, the chile can be sacked and put away. This green dried chile can be used in any way in which the green fresh chile can be used. It will keep a long time.

### Summer Squash or Pumpkin.

Take young, tender squash or pumpkin from two to four or five inches in diameter. Have a good, sharp knife and slice them into thin slices. Place these slices on boards, cloth, grass or anything that is suitable for holding for drying. Put them out in the sun, and be careful that they are not rained upon. In two or three days they should be moved or turned over, so that they may dry quicker. After they are dried thoroughly they can be boxed in small boxes and kept for a long while.

### Corn.

There are two old, but good, New Mexico ways of drying roasting ears (known as "chicos" in Spanish.)

Take tender roasting ears and steam them until done; then either cut the grain from the cob or simply put the roasting ears out to dry. The grain can be spread thinly upon dishes or boards in the sun to dry. When the corn on the cob is thoroughly dried it may be shelled and sacked, or it can be sacked without removing it from the cob.

Another way is to take the roasting ears and place them in the oven or right in the fire, without removing the husks, and let them cook until done. Then remove the husk and allow the roasting ear to dry in the same manner as when steamed. In preparing large numbers of roasting ears by this method, a good way is to build a large adobe oven and heat it thoroughly; remove the coals, throw in the roasting ears with the husks on, immediately close the oven tightly, and let the corn remain in it all night. The next morning the corn can be taken out and after removing the husks, placed out to dry, shelled or on the cob.

FABIAN GARCIA

## CHEESE MAKING.

Only a small amount of time, space and equipment is required and no exceptional skill or experience is called for in making the soft and fancy cheese which can be used to advantage as meat sparers.

### Cream Cheese.

Into a gallon of whole milk put one or two tablespoonfuls of starter —fresh buttermilk or clean clabbered milk; stir gently and heat to about 85 degrees F. Add about twenty drops of rennet extract or its equivalent in rennet tablets. Dilute the rennet in ten times its own volume of water in order to get it evenly distributed without coagulation. Mix well with the cream, cover carefully in order to retain the heat, and set aside for two or three hours, at the end of which time a soft but fairly firm curd should have formed.

Spread a cheesecloth over a bowl and ladle the curdled milk or cream carefully over on to the cloth by means of a perforated skimmer. Drain the curd a bit, gather up the corners of the cloth, tie them together and hang the curd to drain from twelve to twenty-four hours. Prevent breaking of the curd as much as possible.

### Salting the Curd.

Salt the curd, kneading it well to thoroughly distribute the salt. Wrap the cloth around the curd. Place it between two clean boards and press lightly for a few minutes. The curd becomes firm and of somewhat pasty and slightly mealy consistency and ready to eat. Cream can be added in any desired quantity. A gallon of milk made into cheese by the above method will produce between two and three pounds of cheese. The cheese is best when fresh, but will keep for eight or ten days if kept cool.

### Sandwich Nut Cheese.

To each pound of cream cheese add one ounce of any mixture of nuts, which have been run through a meat grinder. Mix cheese and nuts thoroughly and the cheese is ready for use.

### Olive Cream Cheese.

Remove the seeds from good olives, run through the meat mincer and mix with cheese in the proportion of one ounce of olives to one pound of cheese.

### Pimento.

Mix half an ounce of sweet red peppers with one pound of cream cheese.

### Other Varieties of Cream Cheese.

It is possible to use in a similar way a great many other varieties of ingredients such as potatoes, tomatoes, cucumbers, caraway seeds, celery, peanuts, sweet green peppers, apples and carrots mixed with cream or cottage cheese.

# Boys' and Girls' Club Work

W. T. Conway, State Leader.

## KEEPING AN INTEREST.

Leaders find it difficult to get club members out to the meetings during the summer months, especially in the country where the members live some distance apart and the busy season or crop time is on. This should not discourage the Leaders and is no indication that the members are not working. Yet the interest in the Club work will lag and some of the members will forget to keep their records and make their reports if they do not have a regular time for these things. Meetings once a month are not burdensome to anyone and are a necessity to keep the interest alive and active.

When parents signed the cards with the Club members, giving their consent that the boy or girl would be permitted to do the Club work that signature also pledged the parent's support to the necessary activities to make the work a success. Parents want their children to succeed in their Club work, but sometimes they neglect to show their interest, which fact dampens the interest of the child. Thoughtful parents will see to it that the boys and girls attend the regular monthly Club meetings.

The month of July brings the picnic time and every boy and girl enjoys a picnic. Then we suggest that Club Leaders plan an outing of some kind for their Clubs. An invitation might be extended to the parents of Club members to be at this gathering at which time a few minutes can be devoted to the routine of Club work, giving the parents an idea what is expected of the boys and girls. Parents might be called upon to give suggestions about how to get the best results. The boys and girls will get enthused over the interest of the parents in this work. At such a gathering is a good time to spring the matter of a local Club ex[illegible] and the need of premiums and awards for the best in the exhibit. Club members may be called upon to give short reports of what they have already done. Such reports are usually very interesting and inspiring. It helps the weak members to take courage and it makes parents ambitious to have their children succeed. Of course the games and social hour of such Club gatherings are just as important as the Club reports. But the play may be suggestive and symbolize many features of Club work.

If there are several different Clubs in the same community, the Leaders will do well to plan their picnic together. Numbers lend interest to gatherings; besides it is a good idea to keep the community a unit. The Club idea is a co-operative one and is intended to develop community spirit and community interest.

## CANNING DEMONSTRATIONS.

During the month of June the State Leader, Mr. Conway, has given quite a number of canning demonstrations for the benefit of the Boys' and Girls' Clubs and County Teachers' Institutes. The purpose was to stimulate home canning work, especially of vegetables, so that our winter food supply might be increased and the products that have been going to waste might be turned to a valuable asset.

The season opened with a demonstration before the Lincoln County Institute which the Superintendent and Conductor pronounced one of the best demonstrations they had ever witnessed. The teachers were enthusiastic and many agreed to take the work into the communities where they expect to be located. Two other demonstrations were given in Lincoln County at Hondo and Capitan, which were well attended and closely observed.

Five canning demonstrations were given in Chaves County—one before the County Institute and the others for the Club members and communities where these Clubs are organized. From twenty-five to sixty people attended these demonstrations and a greater interest in the canning of vegetables has been developed. The County Agricultural Agent and his assistant accompanied the demonstrator and assisted in making the work a success.

In Eddy County, demonstrations

were put on at Artesia, Hope, Carlsbad and Otis. The mornings were generally devoted to Club work only and the afternoons were given to the canning of vegetables and fruits. There was no lack of interest anywhere. Especially did the mothers of the communities show their interest in food conservation by being present and taking a hand in the actual work of the demonstrations. County Agents Knorr and Buvens busied themselves with every feature and endeavored to impress the people with the importance of food conservation work.

The second canning demonstration tour was through the counties of Socorro, Valencia, Bernalillo, Sandoval, and Santa Fe. The work has not been completed at this writing.

Communities where Boys' and Girls' Clubs are organized, that want these canning demonstrations should call on the State Leader of Club Work or the Lady Demonstrator in Home Economics for their county. Either of these Extension workers will be glad to serve the people in every way they possibly can. They can CAN and if you can't CAN they can show you how to CAN.

## WHO WILL BE COUNTED.

The first of June the State Leader sent out a special report blank to all Club Leaders asking them to report the actual members working. These, and the members who report to the State Leader direct, are the real Club members for 1917.

Leaders and Club members who have not yet reported those actually at work had better do so now in order to be counted. The State Leader wants to know every one who is at work, for the time has come when those who have dropped the work will no longer be counted Club members.

## HOW TO KEEP THE BOYS ON THE FARM.

Give the young people good books, magazines, and farm papers to read.

Have some kind of a club for them to attend.

Let them have a party, entertainment, or a picnic once in a while.

Encourage acquaintance with farm work by giving them small tracts of land for themselves, and by showing them how to raise the crops in which they are especially interested.

Encourage riding and driving. Give them the use of horses when they are not otherwise occupied.

When they have finished the courses of their rural schools, send them to the State's agricultural schools.

Take time to teach them the hows and whys of farm work.—Reclamation Record.

## FARM PRODUCTS ARE NATIONS STRENGTH

"The power of Germany is due largely to the farm demonstrators who go among the peasants teaching them to produce two or three times as much per acre as we produce," said Senator Hoke Smith of Georgia at a meeting in Washington recently.

"But this country is fast teaching its farmers to produce double the amount of food from the same ground with the same effort. This is done by having trained agricultural demonstrators enter the farms by the back door, teaching by doing the scientific methods of farming and kitchen economies. By home methods of practical education and extension of vocational education to the grown-up as well as the child, the people will be taught service, the essence of patriotism."

# WATCH YOUR KITCHEN WASTE

**A LARGE PART OF THE $700,000,000 ESTIMATED FOOD WASTE IN THIS COUNTRY IS GOOD FOOD WHICH IS ALLOWED TO GET INTO GARBAGE PAILS AND KITCHEN SINKS.**

## Ask Yourself—"Can It Be Eaten?"

Don't throw out any left-overs that can be reheated or combined with other foods to make palatable and nourishing dishes.

DO YOU KNOW—

That every bit of uneaten cereal can be used to thicken soups, stews, or gravies?

That stale bread can be used as the basis for many attractive meat dishes, hot breads, and desserts?

That every ounce of skimmed milk or whole milk contains valuable nourishment? Use every drop of milk to drink or to add nourishment to cereals, soups, sauces, and other foods. If you do not want milk to sour, keep it cool, clean and covered continually. Remember, too, that sour milk, buttermilk, and sour cream are valuable in cookery; so do not waste any. Sour milk and buttermilk can be used with soda in making hot breads, or sour milk can be turned easily into cottage cheese, cream cheese, or clabber. Sour cream is good shortening in making cakes and cookies and useful for salad dressings and gravies for meat.

That every bit of meat and fish can be combined with cereals or vegetables for making meat cakes, meat or fish pies, and so on, and to add flavor and food value to made dishes?

DO YOU KNOW—

That every spoonful of left-over gravy can be used in soups and sauces or as flavoring for meat pies, croquettes, and vegetables?

That every bit of clean fat trimmed from meats and every spoonful of drippings and every bit of grease that rises when meat is boiled can be clarified, if need be, and is valuable in the cookery? Don't fatten your garbage pail at the expense of your bank account.

That when meat is boiled the water dissolves out some valuable food and flavoring material? Save such water for soup or for use in stews or gravies, or for cooking vegetables. Save and keep soup stock. Every professional cook knows that keeping a soup or stock pot is an essential economy.

DO YOU KNOW—

That valuable food and flavoring gets into the water in which rice and many vegetables are cooked? Use such water for soup making if it has an agreeable flavor. Don't pour nourishment down the sewer.

That careless paring of potatoes or fruits often wastes as much as 20 per cent of their food material?

That the outside leaves of lettuce and the tops of many vegetables make desirable cooked "greens" or even salads?

## To Be an Efficient Home Manager You Must Know Your Job

Make it your business to know what foods and how much food your family needs to be efficient. Learn how to make the most of the foods you buy.

Write to-day to the U. S. Department of Agriculture, Washington, D. C., or to your State agricultural college for bulletins telling you about the nature and uses of foods and how to feed your family economically, and get the greatest nourishment out of every pound of food that comes into your home.

## Demonstrate Thrift in Your Home

*Make Saving, Rather Than Spending, Your Social Standard*

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# THE NEW MEXICO FARM COURIER

VOL. V. AUGUST, 1917. No. 9.

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## WAR TIMES.

New Mexico is passing through her first trial. The great problem which has confronted us for a number of years has been to feed ourselves. We have had our irrigated sections. They have been small and the produce grown on them has been either fodder stuff or fruit. Cereals and truck growing have been but lightly engaged in in our State. Much of our lands that have been considered worthless for crop growing have become fairly certain as crop producers.

However, let us not allow our enthusiasm to carry us beyond the bounds of reason. There is a great deal of public land in New Mexico that never will be brought under cultivation and therefore ought always to be left in its native grasses. No one should encourage the plowing up of our native grasses anywhere, however urgent it may be to produce food for man, unless he has good reason to believe that some crop can be successfully grown where now the native grass stands. The policy of the Agricultural College is one of conservatism in this matter. The producing of beef and mutton is in direct line with feeding ourselves and feeding our nation. Any diminishing of these industries strikes at one of the fundamental weak spots in our present crisis.

Therefore lands that are subject to irrigation and lands that have had in the course of a number of years a reasonable amount of rainfall should be turned over to the production of food for man and beast; other lands should be left to the growing of meat. The farming that has been carried on in the State will be of greatest imporance to the livestock men if they will take close observation on it. Every ranchman ought to find, somewhere in his ranges, a little valley, although not large, in which he might grow some dry crop of the sorghum variety. This crop would not be sufficient for a farmer to live from, but this same crop put into a silo might save thousands of poor cows and poor ewes in some dry springtime.

We are anxious to help in every way possible to conserve the stock industries and to increase the crop production without a conflict between the two. This can be done.

A. D. CRILE.

## WHAT IS YOUR "BIT"?

Hardly can one pick up a newspaper or magazine without being reminded that he should do his "bit". Now as to what one's "bit" really is, and the way in which he can best do it, that is left for each to decide for himself. However, the writer feels certain that we are quite agreed that in order for the greatest good to be done and the greatest service to be rendered our nation, it is necessary for all to cooperate. The fact should not be overlooked that cooperation is not a one-sided proposition. When you ask for cooperation remember to include yourself and don't expect the other fellow to do all the cooperating. The true spirit of cooperation sees the big things that are being done and hasn't time to waste on finding fault with the little trivial mistakes that are made.

Some few are inclined to interpret the easiest and best way for them to do their "bit" is to stand off and criticize and find fault with the fellow who is puting forth his best efforts to do his "bit" in a worth while way. If these individuals had placed upon them the responsibility of doing the work of the person they are criticizing, they would find the task not so easy and they would be more kindly disposed and more liberal in their views. Anyone can criticize and find fault, but it is quite another thing to accomplish a useful task. It is better to build a new house for a man and invite him to come and dwell therein than to demolish the one he now occupies without offering him anything better.

Let each do his "bit" by helping rather than by knocking. There is plenty for all to do and plenty of room in which to do it without treading on the other fellow's toes.

## DO YOU STILL WANT THE "COURIER"?

Within the next few weeks the mailing list at the Agricultural College will be completely revised. Our present list has come to the point where we feel that it contains many names of people who are not interested in receiving the "Courier" and other publications of the College, and that there are many people in the State who would be glad to receive our publications whose names are not on our list. Our purpose in revising the list is to remedy this condition.

In the future it will not be our practice to send bulletins on special subjects to every name on the general list. Such special bulletins will be mailed only to those who are interested in the particular subject. For that reason our new list will be classified according to subjects. In requesting that your name be kept on the list or put on the list, please specify which of the following subjects are of special interest to you: Range cattle, dairy cattle, hogs, sheep, poultry, orchard, home economics, general farming, dry or irrigated. Your name will then be included in the general list for the "Courier" and other general publications and also in the special list for the subjects designated by you.

When the new list is completed, we

invite your cooperation in keeping it correct. Please be sure to notify us of any change of address. If more than one copy is desired, or if anyone wishes to send in a list of names to receive the publications, we shall be glad to comply with such requests.

Attention is called to the fact that the new list will contain only the names of people who request that their names be included. It is not considered worth while to send our publications to people who do not manifest sufficient interest to ask for them. If you want them, you're welcome; and we hope they benefit you.

# Department of Agronomy.

## THE SORGHUMS.

The numerous varieties of sorghums are cultivated in the plains region mainly for grain and forage, but in some sections the raising of broom corn is an important industry.

Sorghum is of enormous importance because of its adaptation to regions too dry for Indian corn. It is adapted to sections having a warm summer climate. In regions of long cool summers sorghums are of but little importance. The earliest known variety will mature in three months of warm summer weather.

### Grain Sorghums.

Kafir, milo and feterita are the most important grain sorghums and are now recognized as leading dry-land crops for regions having altitudes not greater than 5,000 feet. Results with these crops at the Tucumcari Field Station indicate that Dwarf milo is the highest yielding grain crop, but that the roughage is very poor. Kafir roughage is much better and the grain yields are but slightly lower than those of milo. Kafir is much easier to harvest. Feterita is a promising grain crop and seems to be slightly more drouth resistant than either milo or kafir. However, at the Tucumcari Station it has not proven itself more valuable than kafir or milo, in normal years.

### Sweet Sorghums.

The sweet sorghums are drouth resistant and belong to the same general family as the kafirs. The seed of this crop is not grown for feed, as it is unsuited for this purpose; but the entire plant makes a highly desirable forage, either when fed as hay or silage. Sweet sorghums should be allowed to mature the seed before being harvested for forage—more especially silage—as in this way the juice does not become so acid as it does when the crop is harvested too green. This crop usually makes a heavier tonnage of silage than do the grain sorghums, and for this reason is gaining in popularity. There are two varieties of sweet sorghum in this section that are grown more than the others: the Amber, an early maturing strain; and the Sumac, or Red Top, which comes later.

### Culture of the Crop.

The different varieties of the strains are so similar in habit that they do not need different cultural treatment. Different treatment, however, is required in different sections and in different seasons, and on different soils in the same sections. The sorghums, like all other crops, respond to a well prepared seed bed. The land should be plowed moderately deep and harrowed down so as to break up the clods and provide a place so that each grain comes in contact with the loose, well pulverized soil. Time spent in preparing an even seed bed is well worth while, for it not only insures better germination but destroys weed seed and a large number of young weeds that are just starting to grow. On soils that are light and subject to blowing, listing is preferable to plowing. Listing also has the added advantage of keeping the soil from washing.

Best results are usually secured when the sorghum is planted in cultivated rows. With seed of known good germination, three to four pounds per acre is sufficient. If planted for silage, many growers use considerably more seed per acre. The amount of seed to be planted will be governed entirely by the vitality of the seed, the available moisture, and the purpose for which it is planted. When planted for hay it is broadcast at the rate of one to two bushels per acre.

The crop should be cultivated often to keep a crust from forming and to keep down weeds.

RUPERT L. STEWART,
Agronomist.

## THAT SMUT.

As wheat planting time is drawing near, this article will deal with the prevention and treatments of the smuts of wheat. Losses from smuts are of two kinds: (1) Those in the field, when smutted plants take the place of sound plants, causing a reduction in the yield per acre, and (2) those in marketing when noticeably smutted wheat receives a lower grade than smut-free wheat, and is often rejected. The losses in the United States in 1911, as estimated by the Office of Grain Investigations, was 1.7 per cent of the total wheat crop, or 10,562,746 bushels, valued at $9-232,071.00, for stinking smut of wheat, and 0.85 per cent of the total crop or 5,218,373 bushels valued at $4,616,035, for loose smut. Thus the total loss in the United States from these two easily preventable diseases was $13,848,106.00.

Last year there were produced in the State of New Mexico 1,072,000 bushels of winter wheat, with a farm valuation of $1,608,000.00. If we place the total damage to this crop at 2 per cent, a very conservative estimate, the loss for the State is $32,160.00. However, this does not represent the total loss, as this is based on the farm valuation, and much of this wheat was docked when placed on the market. Another loss that cannot be represented in figures is the one occasioned by the use of this smutted grain for seed last fall This alone has caused the loss of much grain this year where the seed wheat has not been treated.

Stinking smut of wheat is caused by minute parasitic plants known as fungi. The spores or seeds of this parasite cling to the kernel and when the wheat germinates, the spores also germinate and grow inside the wheat sprout, continuing growth in the seedling until the plant heads out, when spores are again formed in the head, instead of wheat kernels. These smutted kernels, if planted alone will not germinate or grow, as they are merely masses of the very minute seeds or spores of the smut fungus, enclosed in a membrane nearly the shape of the wheat kernel. Anyone who has witnessed the threshing of badly smutted wheat will agree that treatment of seed pays, if only for convenience in threshing.

Where seed wheat has been threshed in a thresher which has been working in smutted wheat, it is easy to see that even absolutely clean seed will be infested with the smut spores carried in the thresher. Thus treatment is necessary, even if the wheat raised was absolutely free from smut this year.

Many experiments have been carried on to determine the surest and most economical method of treating the wheat, and those involving the least labor. It has been found that the formaldehyde, or formalin treatment has given the best results. The germinating power of the grain is never impaired if the treatment is carried out according to the following formula:

For small amounts of grain, a barrel may be filled with a mixture of 1 pint of formalin to 40 gallons of water and the grain dipped in sacks or wire baskets, and allowed to soak 10 minutes. At the end of this time the sacks are placed so that they will drain into the barrel, and after draining, the grain should stand in the sacks one hour and then be spread on a disinfected floor or canvas and allowed to dry.

For treating larger quantities of the grain there are many machines on the market but it is seldom necessary to invest in one, as almost anyone can devise a method of treating large quantities. Large tanks are sometimes used, so that several sacks may be soaked at once, or a line of barrels may be used with a block and tackle suspended on an overhead cable or silage carrier for raising and lowering the sacks.

In all cases care must be used to mix the solution according to formula, treat for 10 minutes, drain, and let stand for an hour.

Do not use a solution that has stood over 12 hours.

Do not place grain in infected sacks or on infected floors or canvas after it has been treated.

Rinse the drill with formaldehyde solution before planting.

The cost of formaldehyde, or formalin is about fifty cents a pint, and one pint mixed with 40 gallons of water will treat several hundred pounds of seed.

Everyone should treat seed at once, and thus insure a bigger income for next year.

E. PETERSON,

County Agricultural Agent, Curry County.

# Department of Animal Husbandry

## TANKAGE FOR PIGS.

It is generally understood that, while corn is one of the best concentrates for pig feeding, it is deficient in bone and muscle making material; that is, it fails to develop a strong, large framework of bone and muscle, and for best results, should be supplemented by other feeds supplying the nutrients necessary for this purpose. When skim-milk and wheat shorts are plentiful, they serve the purpose well, particularly when the pigs are running on alfalfa pasture or are supplied with plenty of good quality alfalfa hay or other coarse leguminous feed. Tankage has been favorably recommended as very suitable to feed with corn, to make a ration that will satisfactorily develop the bone and muscle and greatly aid in bringing the pig to early maturity.

Tankage is a packing house product, usually quite rich in protein which is highly digestible. It also contains much lime and phosphoric acid. It is made up to some extent of the carcasses of animals condemned by the inspector as unsuitable for meat; but it is thoroughly steam cooked under high pressure and thus becomes well sterilized so that there is no danger of disease from feeding it.

A number of Experiment Stations have secured very good results from its use. In the Southwest but little has been fed, because of the seeming high price. In order to secure some facts on the subject, the New Mexico Agricultural Experiment Station conducted an experiment recently, in which thirty-six three-month-old pigs were used. They were separated into three even lots, one of which was fed ground corn; one, ground corn and packing house tankage; and another, ground corn and El Paso tankage. Until the pigs averaged 100 pounds in weight, 15 per cent of the concentrate ration was made tankage; after that, only 10 per cent. All lots had a constant supply of choice alfalfa hay. The experiment started February 1, and continued 87 days, with the following record: The total gain of the corn-fed lot was 993 pounds; of the standard tankage lot, 1775 pounds; and of the El Paso tankage lot, 1618 pounds. In the El Paso market the tankage lots sold at 10 cents per hundredweight more than the corn lot. The Nutrition Chemist's analysis showed the standard tankage contained 62.9 per cent protein, and the El Paso tankage 47.7 per cent. The former cost $3.60 per hundred, and the latter, $2.50. Considering only the cost of pigs and of the feeds, the corn lot made a profit of $62.10; the standard tankage, $133.29; and the El Paso tankage, $127.82. The alfalfa hay was figured at $20.00 per ton, and the corn at $2.35 per hundred. The cost of 100 pounds of gain on the corn lot was $11.34; on the standard tankage lot, $8.76; and on the El Paso tankage, $8.56. It was noticeable that the lots having tankage ate more and had a more regular appetite than the corn lot. All the pigs in this experiment were farrowed between October 31 and November 17, excepting six, which came October 14; making them average about six months of age at the close of the experiment. Their average weights were as follows: corn lot, 142.5 pounds; standard tankage lot, 207.9 pounds; El Paso tankage lot, 195.6 pounds.

Judging from this single test, it will pay to feed tankage to pigs, when the relative costs of tankage and other feeds remain about the same as for this experiment.

LUTHER FOSTER.

## POULTRY PRODUCTS EXHIBITS.

Since fairs existed it has been the custom to exhibit livestock of all sorts, including Poultry. With cattle, sheep, horses and hogs it has been customary to exhibit a dam and her offspring and there is always keen competition in the better entries. In the larger fairs dressed carcasses are frequently exhibited not only to show the skill of the person who produced the animal and the quality of the carcass but also the skill of the person who killed and dressed the animal.

With the enormous economic waste of eggs and poultry meat each year due to improper care it is an opportunity passed by when a State, County or Community Fair does not include a hen and her sons and daughters, dressed Poultry and eggs in its premium list. This proposition is one that is finding favor in many places. In some of the larger centers entire fairs are devoted to eggs and other Poultry products. Such exhibits are of inestimable educational value. Each person exhibiting will visit the exhibit and by actually seeing what someone else has done will gain knowledge.

In some localities where this exhibit is made it is a splendid idea to display parcel post shipping boxes and other appliances for packing and shipping eggs and Poultry. Demonstrations and lectures may be given in the same locality on proper methods of handling eggs, killing and dressing Poultry, breeding Poultry for improvement in egg production and other topics of Poultry husbandry.

The New Mexico Experiment Station will assist in any way within its scope to materialize such exhibits and demonstrations if request is made.

R. B. THOMPSON,
Poultryman.

## TWO CROPS OF POULTRY.

Since producers everywhere are being urged to produce a main crop and then a short season crop, it brings to attention the fact that New Mexico, or at least a great portion of New Mexico, is an ideal place to produce two crops of poultry.

It is a well known fact that during the summer months it is a difficult matter to raise chicks and the chicks that do live do not grow and develop as they should. So in place of late hatching in the spring, advantage should be taken of the cooler weather of late summer and early fall to produce a second crop.

The price of eggs at first thought appears to be a reason for not hatching at this time. However, compare the price of early spring and fall eggs and it will be found that the first eggs used in the spring are probably higher than those used in August.

The high price of grain will of course be considered by many people. This is not entirely a matter of dollars and cents, but a proposition of producing more food. Even should the cost of feed be considered, it is in truth a matter of small consideration when all other things are considered.

Should one-half of the farmers in New Mexico who now have some poultry, hatch fifty chicks before the last of September and should one-half of the people in towns and villages who now have some poultry, hatch twenty chicks before the last of September, New Mexico's egg production for 1918 would be increased about 914,000 dozens. Aside from this increased egg production there would be about 114,000 cockerels that when eight weeks old would amount to about 200,000 pounds of meat which at twenty cents per pound would bring about $40,000.

Should each farmer provide a portable colony house and give these pullets the range of the fields, and especially where winter plowing is going on, the amount of benefit in the way of destruction of crop pests, grasshoppers, cutworms, etc., cannot be estimated. At the same time these pests are being destroyed a vast amount of food is being gathered by the pullets. Pullets hatched in September should be in full production by April if given proper growing conditions.

Chickens may be developed without trouble in the winter providing there is not continuous rain and dampness, continuous snow or weather with the temperature below zero. Provide a suitable house without drafts and with the open side faced from prevailing winds. Give the chickens range of the farm, supplement the forage feed with sufficient grain feed, then the pullets will do the rest.

"The hen will get Silver out of Sand, coin Gold out of Grain and make Greenbacks out of Grass," is an old saying and never truer than now. Use it to advantage now. Grow a second crop of chickens this fall, thereby increasing the food supply of the State. It is patriotic and also profitable.

R. B. THOMPSON,
Poultryman.

## THE MESQUITE BEAN AS A WAR CROP.

Since the publication in the April, 1917, issue of the "Courier" of the results secured at the New Mexico Experiment Station in feeding mesquite beans (Prosopis glandulosa) to hogs, several inquiries have been received regarding the gathering, grinding, and feeding of the beans.

In certain localities in the southern half of New Mexico there are at present thousands of bushels of this valuable feed ripening and falling to the ground. Some of the beans are being eaten by horses, cattle or other stock; but many of them will be entirely wasted, especially if there should be much rain during the latter part of August or September. After being exposed to rainy weather for a short time the beans begin to spoil and soon lose much of their palatability and nourishment. Even when consumed by stock, without grinding, about forty per cent of the nutritive value is lost, through the hard seeds not being digested.

In view of the present high prices of grains, the need for harvesting all the feeds possible and the fairly good crop of mesquite beans that is at present maturing in many sections of New Mexico, it would seem advisable, wherever at all practicable, to gather, grind and feed a large part of the crop. Mesquite beans are at present being gathered and shipped by the carload in Texas. In the Hawaiian Islands last year algaroba meal valued at about $225,000 was fed to live stock. The algaroba is very similar to the mesquite, some botanists, indeed, considering that they both may belong to the same species. A few years ago Mr. E. V. Wilcox, in Press Bulletin No. 26 of the Hawaii Agricultural Experiment Station at Honolulu, had the following to say regarding the algaroba: "When it is considered that women and children pick up the beans and sell them for $7.50 and $10.00 a ton, it is apparent that this feed has a much higher feeding value than its actual market price, particularly when compared with the high price which must be paid for imported feeds. The dairymen and ranchmen recognize the importance of feeding large quantities of the beans picked up for storage, in order to prevent the great loss which would occur if they were all left upon the ground. Wherever the belts of algaroba timber are large it has been found possible to maintain stock for a month or two of a season without any other forage than algaroba beans."

The feeding value of the New Mexico mesquite bean is probably somewhat higher than that of the algaroba in Hawaii, on account of containing about ten per cent less moisture and considerably more protein and fat. In experiments conducted at the New Mexico Station last winter the former, when properly ground and fed to hogs, as fifty per cent of the concentrate ration, gave results that were approximately two-thirds as good as those of ground corn. During the first few weeks of the experiment the gain made by the beans was little below those put on by the corn, but during the last few weeks of the test —which continued 76 days—the corn proved to be much the better.

Anyone who makes an effort to save as much as possible of the mesquite bean crop in his locality this year, without neglecting other more important work, will certainly be performing a patriotic service; not only because additional feed will be provided, but because additional funds will be distributed among those who do the gathering, grinding and feeding of the beans.

As has been previously stated, the gathering of this crop is slow work; especially if the bushes are badly scattered or do not produce heavily. However, last fall one of the native workers of the Experiment Station gathered six sacks one day, the total weight of the dried beans probably being about 175 pounds.

C. P. WILSON.

# Horticultural Department.

## HOLDING GRAPES.

Many of the farmers who have small vineyards often dispose of their crops as soon as they ripen and do not realize a good margin between cost of production and selling price; and often just after they dispose of the crop they find that there is a good demand for grapes at prices that are considerably higher than those they received. This is the reason for this article.

The Horticultural Department of the New Mexico Agricultural College has been experimenting in keeping grapes for the fairs a week to six weeks after ther regular picking time. This has been done several years in succession, and is so simple and successful that it should be of interest to many farmers.

A week or so before the grapes are ripe, paper bags are tied over the nicest clusters; leaving the smaller and more inferior clusters for immediate disposal. This protects from birds and insects, and keeps the grapes in almost perfect condition for several weeks. The greatest expense is that of tying the bags on. The bags are inexpensive, and where cheap labor can be secured the total cost is not high.

J. W. RIGNEY.

Anyone troubled with plant diseases or insect pests of any kind is urged to send to the Agricultural Experiment Station, State College, N. M., specimens for identification together with the request for information. Advice may be given much more definitely if all such requests are accompanied by a full description of symptoms and nature of the trouble or infestation as far as may be observed.

Jars worth as much as ever in winter; vegetables worth more than ever. Home canning pays.

You can brag about your garden all winter if you have your canned evidence on the dinner table.

Make your hoe this summer keep your can opener busy this winter.

# Department of Biology

## THE SQUASH BUG.

Mid-summer usually brings requests for information on the above insect. However, as will be seen below, attention should be given it earlier in the season and even the year before.

The adult squash bug is nearly three-fourths of an inch in length; dirty blackish brown above and mottled yellowish beneath. It is a sucking insect, the beak being easily seen on the under side of the head. Adults live over winter under rubbish piles, etc., in the garden. Eggs laid in spring in masses on the leaves of cucurbits hatch into small wingless young that attain the adult stage through a series of five moults. Young and adults both may be found usually throughout the latter part of the season.

Damage to squash, pumpkins, etc., by adults and young is due to the plant juice being sucked out through the beaks of the insects. Young plants may be wilted quickly by a few punctures, older plants being able to withstand more severe attack.

The adults are so resistant to poisoning that a spray strong enough to kill by contact, as they have to be killed on account of their manner of feeding, would kill the plant upon which the insect was found. The young in the earlier stages may be killed by the Blackleaf 40 tobacco solution used a little stronger than recommended on the container for plant lice. Kerosene emulsion, if carefully prepared, will serve the same purpose used at about 7 per cent strength.

Hand-picking early in the season of the few overwintered adults and their early eggs will often serve to prevent later damage. The adults may be trapped, especially early in the season, by placing on the ground at intervals among the vines, pieces of boards, shingles, etc., to which the insects go for shelter at night. Examine these places early in the morning and kill the insects found there.

A few very early squash vines may be used to attract the overwintered adults before the main crop is planted and the insects may be killed in mass there. A few late vines may be used in a like manner to attract the insects late in the season so they may not be allowed to hibernate.

By all means the old vines should be gathered and burned at once as soon as the crop is off so as to destroy many of the insects among the vines, and lessen the chances of others finding hiding places for the winter. The whole garden should be cleaned up and plowed in fall for the latter reason. This treatment helps greatly in the control of other insects, also. Clean culture and care about cleaning up crop remnants promptly as soon as the crop is off is one of the best factors in control of garden insects.

Young plants may be protected by screen covering for a time and so be enabled to get a better start. Good care of thrifty plants helps the plants to bear injury better. An excess of young plants, to be thinned later, will make chances of survival better, for sufficient plants for a crop.

D. E. MERRILL,
Biologist.

# The Home Department

Edited by Gail Richie, State Demonstrator in Home Economics.

## HOME ECONOMICS CLUB PROGRAMS.

In arranging these programs from month to month our purpose is merely to offer suggestive outlines, to be followed or not at the pleasure of the club members.

Home economics programs should provide a demonstration as well as a discussion for each meeting. The theory of dietetics is of little value to the housewife unless she can put it into practice. The added interest afforded by a demonstration is, in itself, sufficient reason for insisting upon both these features. It is well for the club members who are to give these two features to consult with each other in order that the demonstration may emphasize the more important points brought out in the discussion.

Time and study are essential to make these programs of value to the club. For this reason the program appearing in the August "Courier" should be used for the September meeting, provided that meeting takes place after the middle of the month. In clubs where the meeting is earlier it would be better to use the program here given for your October meeting.

The Home Economics Extension Department at the State College makes the following offer to the housewives of New Mexico: We are willing to give short courses in Home Economics throughout the State. Any community where 75 women will sign the request may have the services of a woman from the department who will give lectures and demonstrations in that community for three consecutive days. These lectures and demonstrations will be along whatever lines of home economics the women of that community desire.

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### Club Program.

### PRESERVATION OF FOODS.

**Canning.**

1. Reasons for canning.
2. Methods of canning.
    a. Advantages and disadvantages of each.
3. Steps in canning.
4. Reasons why some canned products spoil.

**Demonstration.**

1. Demonstrate proper method of testing jars, lids, and rubbers.
2. Can two or more foods.

**Drying.**

1. Discussion of methods of drying and devices used.
2. Compare drying with canning as to:
    a. Economy of time and money
    b. Quality of product.

**Exhibiting.**

Arrange for an exhibit, however small, of canned foods and of dried foods. If desired the club members might try grading the canned goods following the score card given on page 31 of the bulletin entitled, "Study and Program Outlines for Home Makers' Clubs."

References: Farmers' Bulletin No. 839 and Farmers' Bulletin No. 841, Department of Agriculture, Washington, D. C.

Extension Circular No. 14, Extension Service, State College, N. M.

The New Mexico Farm Courier, July, 1917, State College, N. M.

Study and Program Outlines for Home Makers' Clubs, Extension Service, State College, N. M.

## HAVE ANY OF YOUR CANNED GOODS SPOILED?

If something spoiled and you do not know why, look thoughtfully over the following suggestions and you may discover the reason:

**I. How did you select your jars?**

1. There should be no metal or rubber in direct contact with the food product unless the metal is enameled or lacquered.

2. Glass jars should be well cleaned and should be taken directly from hot water to be filled.

3. If the food is to be cooked less than 30 minutes the jars should be sterilized and used from the boiling water.

**II. Did you test your lids?**

To test screw-top jar lids:

1. Place the lid on the jars without the rubber and seal tight. If the thumb nail can be inserted between the edge of the lid and the glass, the top is probably defective. Press such an edge down firmly with a dull knife until this defect is corrected.

2. Put on the rubber and the lid, then screw down the lid tightly. Pull rubber out, then release it. If the rubber springs back into place between the top and the jar the seal is defective.

To test glass-top jars:

1. Place top on the jar without a rubber. Tap the outer edge of the top with the fingers. If the top rocks it is defective.

2. The wire bail over the top should go on with a snap even if the clamp is down. If it does not, remove the bail and bend to make it tight.

**III. Did you test your rubbers?**

1. Fold a rubber in half and if it does not crack it is safe to use.

2. Stretch the rubber and if it springs back it is safe to use.

3. Do not use old rubbers. Boil the rubbers two or three minutes.

**IV. How did you pack the jars?**

Do not over-pack corn, peas, shell beans, asparagus and greens.

**V. Did you correct your time table for high altitude?**

The time table for processing is made out for the altitudes of 500 feet above sea level. For every additional 1,000 feet, you should add one-tenth more time.

It is well, after adding the time as directed, to examine the product and if it seems to be over cooked lessen the time a little. The altitude where you live may come between 1500 feet and 2,500 feet—that is, a little too high for one-tenth additional time to be enough, yet hardly high enough to necessitate adding two-tenths more time.

This time correction is not needed when a steam pressure canner is used.

**VI. If you use the water bath or homemade canner, when did you begin counting time?**

You should count time from the moment the water begins to boil and boiling is a **vigorous** process; never call a simmer a boil.

**VII. Did you neglect any of the following suggestions?**

1. In using a steam pressure canner, too high pressure, though it lessens the time, injures the quality of the food product.

2. In blanching greens, cabbage, cauliflower and Brussels sprouts, steam them instead of putting them in boiling water. A good homemade steamer may be inprovised by putting a perforated false bottom in a dish pan.

3. The use of preservatives or canning compounds is neither safe

nor economical. Most of these are harmful.

4. All products should be canned soon after being picked. Canned corn, peas, beans and asparagus develop a sour taste known as "flat sour" if they stand many hours before being canned.

5. Corn, peas and beans should not be over ripe. Corn should be between the milk and the dough stage.

MRS. EMMA B. WAGNER.

Assistant Demonstrator in Home Economics.

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# Boys' and Girls' Club Work

W. T. Conway, State Leader.

## THE LAST WORD.

By W. T. Conway.

Just think of a mere man contending for the last word! But necessity, like war, may bring about the condition which compels man to speak a final word. This, you understand, does not estop my friends and the friends of Club Work from saying all they have in their minds and hearts to say about Club Work in New Mexico—what has been done during the past six years and what ought to be done in all the years to come. The talk on Club Work is final only on my part, as the month of August will close my work in New Mexico as State Leader of Boys' and Grils' Club Work.

First of all, I wish to commend the boys and girls who are now members of the Boys' and Girls' Clubs or who have been members during the past six years of my active relations with the College of Agriculture and the three years connected with the Extension Service. Without YOU, our boys and girls, it would have been impossible to carry on this Club Work. For YOU the Club Work was inaugurated. Every project that has been planned, every circular that has been written, every trip that has been made by the State Leader across the State, his daily thought and nightly vision—everything that has been done has been with the end in view of helping the boys and girls of New Mexico. In turning the work over to my successor, I ask every Club member to be loyal to his Leader, diligent in his work and determined to make the Club Work a success. There is no room in this State and Nation for "slackers."

In the second place, I wish to thank the Local Leaders for their faithful assistance in the Club Work. As every well ordered home must have its head, every business enterprise its foreman, every army its officer, so every Club must have its Leader if its members are to make progress and succeed. Practically every instance of failure in Club Work has been for the lack of leadership, while every instance of success can be traced to active, efficient leadership. There will be stars in the crown of the unselfish Local Leader.

In the third place, I wish to extend a hearty hand-shake to the great body of school people of New Mexico. From the State Superintendent's office down through the county and city superintendents to the rank and file of teachers, the Club Work has received active recognition and co-operation which has resulted in the success thus far attained. Many of our Club Leaders have come from the ranks of those now teaching or who have been teachers in other days. Having been a teacher, myself, for more than twenty years, I have always looked for cooperation on the part of educators and I have seldom been disappointed.

When Club Work finds its rightful place in our system of education, school will keep eleven months out of the twelve and competent leaders will be paid by the year, who will teach principles not only from textbooks in the school rooms but will also demonstrate practices and methods of application in the home, in the garden, in the field. This plan is no vision of a dreamer but is now being actually worked out in many sections of the country and in one place even in New Mexico.

Last of all, I will not forget the great body of New Mexico citizens who have contributed their good offices, their time and their money for the success of Club Work. Such men as Senator Fall, who gave the first $100 that met the premiums of the first State Exhibit; Hon. H. J. Hagerman and Senator A. A. Jones, who, with Senator Fall, furnished a neat 4-H Club Pin to each member completing his project last year; Mr. Robert E. Putney, who made possible the first State Club Encampment; Mr. J. J. Herndon, who gave the first scholarship to a state winner; Mr. L. C. Mersfelder, who awarded the first gold medal to a state winner; and a host of others who have given liberally to encourage the Club Work in local community, county and state. While premiums and awards should never be made the end in Club Work they are very helpful as incentives to greater effort and are suitable badges of honor and achievement.

I wish to say to my friends, co-workers and readers that it is not without deep feeling that I relinquish the leadership of the Club Work in New Mexico. I have never been engaged in a work that I liked better or enjoyed more. I consider it a rare privilege to have started this work in the new, yet old, State of New Mexico. That mistakes have been made, no one will attempt to deny; for the man who never makes mistakes is the one who never attempts to do anything or else is not responsible for his own acts. But I am frank to say that the mistakes that have been made were mistakes of the head and not of the heart. Neither have they been so many nor so serious as to be long remembered. I trust that they may be forgotten much sooner than the one that made them.

And now, Club Workers, I bid you Godspeed in your every effort, not only in the production of better crops and better kept homes but in the realization of a better, happier and thriftier citizenship. In parting I ask you with me, to drink this toast:

Where sunshine gleams and waters
flow,
Where healthful, balmy breezes
blow;
Forgetting class, let's dip the glass
And drink a Toast—New Mexico!
New Mexico! New Mexico!
We love thy highlands capped with
snow;
We love thy valleys far below,
Filled full of forage, fruit and flower,
Of tangled vine and leafy bower;
We love thy desert's once repose
That blossoms now like a new-blown
rose;
We love thy healthful, balmy air,
Thy sunlit skies, thy nights so fair.
Sing out ye hills, ye breezes blow
Till all the world shall come to know
Thy health, thy wealth—New Mexico!

THE point has been reached where war is waged literally by whole nations. Every man, woman, and child is involved and nearly every adult and most boys and girls can be efficient factors. We are in this war for the purpose of defending our rights, of making sure that, as a Nation, we shall be able to live the sort of life and to have the sort of institutions we desire, of making democracy persist in the world, and of safeguarding the world against the recurrence of such a war as this. To accomplish this the Nation must aim at the perfection of organization, and therefore each individual must recognize the necessity of making sacrifices for the common good and more than ever of working under limitations—of doing team work. Our people have a genius for organization, and they will not fail in the task they have assumed. Our farmers, on whom great responsibility rests, are the most efficient farmers in the world when they do their best. They will not be found wanting in this crisis.

D. F. HOUSTON,
Secretary of Agriculture.

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# THE NEW MEXICO FARM COURIER

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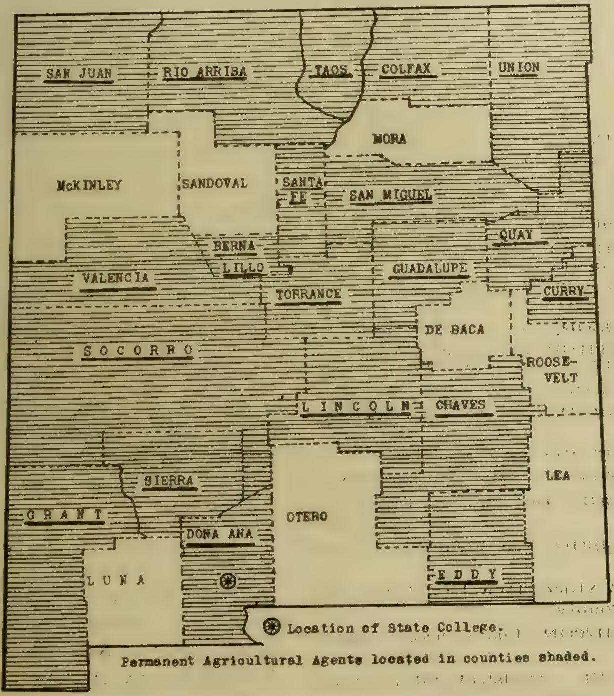

⊛ Location of State College.

Permanent Agricultural Agents located in counties shaded.

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AUSTIN D. CRILE.. President of College
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY....Director of Extension

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# EDITORIALS

(by Austin D. Crile)

## BEEF

As the war progresses, the sufficient supply of meat for the Army and for the proper rationing of the civilian population grows more serious. When we are living in meatless days and cattle are commanding the present prices, conservation in the line of beef becomes one of the greatest importance; and New Mexico has been, and will remain, one of the chief breeding places of the entire United States for beef.

I have given the cattle situation in New Mexico very careful thought, and two things we are proposing to do. The first is that we should make a concerted effort, with the help of the Federal Government to kill out predatory animals and rodents and stop the entirely useless waste. On my recent trip to Washington, in attendance upon the meeting of the presidents and other land grant college workers, I took occasion to meet with the Secretary of Agriculture, and I laid before him this entire situation. I found him very responsive and quick to understand a good deal, and after a conference with the Secretary and with the Biological Survey, I secured two things: first, $25,000 from the Department of Agriculture, to be used as directed by the Biological Department and our College, provided the State of New Mexico would raise an equal amount for this purpose, by one way or the other; and also, secondly, and of the most importance, the cooperation of the Biological Department, that is, a department that has been organized and that has been long in existence, which has made a careful study of the best way to poison rodents and to kill predatory animals. All their knowledge and their large field force will be thrown into this campaign when it is ready. This I consider to be a tremendous advantage to the food supply situation, and a great economical advantage to New Mexico.

The second problem was to find out some way of making use of such roughage as grows on our mountains and valleys—such feed stuff as does not seem to be particularly affected by the long drouths. We have fenced eighty acres of typical mountain land, which adjoins our school, and are starting an experiment on twenty-five range cows running on this range land, and will feed them sotol and yucca. If this experiment will succeed as well as we have faith it will, we shall make available enough food stuffs in New Mexico to maintain and feed all the cattle of the State and a great many in addition. We will report on this experiment as it progresses.

If these two things could be accomplished, I am firmly of the belief it would increase the output of beef for New Mexico by one-fourth.

In the meantime, if any serious trouble by the gray wolves in any locality of New Mexico is reported at once, we will be able to send a trapper to help catch them. The College invites the most complete cooperation. and begs the most sincere help of the people of New Mexico in this campaign.

## MUTTON AND WOOL

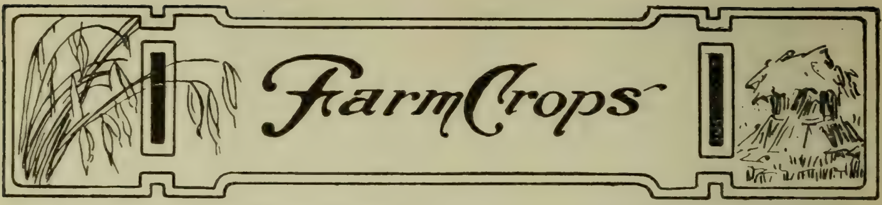
The same argument that can be made as regards the predatory animals and rodents in connection with the range cattle situation is equally true, if not more so, of sheep. It is scarcely a question of having a muttonless day, but it will soon be a question of whether we can have any kind of a day at all for mutton. It is not a question of what woolen goods cost; it will soon be a question of whether we can buy woolen goods. We owe a direct duty to our soldiers and to our fellow citizens to conserve every sheep, every pound of meat, and every pound of wool that we can possibly produce, and for this reason and for this purpose I expect the most hearty support and cooperation of the sheepmen of the State in helping to put on this program.

## PORK

Perhaps the most rapid gain made by any industry in New Mexico in the last five years has been the increase in pork. Our irrigated sections of New Mexico are really the hog's paradise, and with our shortage of fats and the tremendously high prices of hogs, we have secured the services of a special man, well trained in this business, who will devote his entire time to increasing the hog industry of our State. Any person interested in hogs, in any phase of their breeding, growing and marketing, will communicate with the Extension Division, and they will receive excellent assistance.

## FARMERS' WEEK

We are preparing an exceptionally strong program for Farmers' Week, January 14th to 19th. The farmers' meetings that are now being held under the direction of our county agricultural agents in all parts of the State are of the greatest importance, and I hope have been largely attended; but we want one grand, big meeting here at the College, and we want you to begin now to plan to come, and talk to your neighbor about it. Full descriptive literature will be sent you within reasonable time.



# Farm Crops

## SELECTING AND STORING THE SEED OF GRAIN SORGHUMS

### Kaffir and Broom Corn Will Cross

The sorghums include many members of the grass family that from the standpoint of use and appearance do not appear to be very closely related. But the relation of the sorghums is very close. Kafir will cross with milo, and the sweet sorghums. Any of these will cross with broom corn, shallu, kavoliang or durra. In fact it is not unusual to find crosses of any of these sorghums in a field grown from seed planted from the bin, as a great deal of the seed is selected. More remarkable still is the fact that sorghums will cross breed with Sudan grass and Tunis grass. In rare instances it has even been reported as having crossed with Johnson grass. The last named cross has not been verified beyond a doubt, however.

All of the above named plants are subject to the same smuts. Both head smut and kernel smut attack all of the sorghums with the possible exception of milo maize, which seems to be immune.

These facts indicate that seed of the sorghums should be selected while the plant is still growing. Field selection is good providing the head has not been crossed with broom corn or another sorghum growing in nearby rows, but it is not enough. To get the best seed, and the best seed is none too good for any farmer, the man who saves seed should have his seed plot.

### The Seed Plot

The seed plot may consist in a small patch of ground, or it may be a large field that will produce hundreds of bushels of seed. The essentials, for the seed plot, are that it be far enough away from other sorghums that the particular variety grown cannot cross breed. It must be on clean ground that does not contain smut spores to contaminate the seed, and the seed itself must be pure of the variety grown, true to type, and free from smut spores. The latter condition may be assured by treating the seed for one hour in a formalin solution of 1 pint pure formalin to 30 gallons of water.

### Selecting the Seed

A start must be made towards all selection. The time is past this year for selecting from the field. The next best thing is to select seed from plants yet in the bundle, or cut heads which have not yet been threshed. This method does not allow the farmer to judge the whole plant from which the seed is selected, but it will allow him to select large, well filled, mature heads, which are apparently pure and true to type.

The heads selected as above should be threshed by hand, as the thresher is the biggest factor in mixing foreign seed and disease spores into clean seed. The seed after it has been thoroughly cleaned should be treated with the formalin treatment mentioned above, before planting. Nor is treating the seed alone enough.

The sacks and receptacles in which the seed is stored or transported, as well as the planter or drill, must be washed out with formalin solution to kill smut spores that may have lodged there from unclean seed.

This seed if planted in a clean seed plot should give heads that are considerably above the average of the heads, in the field from which the original selection was made. Seed from this plot when planted into the fields where the main crop is grown should increase the yield several bushels to the acre above what would have been gotten from bin selected seed. This first seed plot, however, is just a beginning to the possibilities that may be expected from continuous seed selection.

### Selecting Seed for Next Year's Seed Plot

If a seed plot has already been started, the seed selector should not stop with the first year's work. When the sorghum plants are maturing their seed, he should notice not only the heads, but he should examine the whole plant for general thriftiness, leafiness, freedom from disease and other qualities which go to make up the type of the particular sorghum that he is breeding. Then he should select heads from the plants that most nearly meet his ideal of the sorghum which he is growing. This second year's selection should be much more fruitful of results in improving the yield and quality of the crop than was the first year.

### The Selecting of Seed is a Practical Money-Making Proposition

It has been proved time and again that wise seed selection will increase the yield of grain many fold. One bushel of sorghum when planted will yield at the rate of five bushels per acre, another bushel when planted on the same number of acres of the same kind of ground and given exactly the same treatment will yield 40 bushels per acre, or even more, due to seed selection. The man who grows the 40 bushel per acre sorghum receives eight times as much seed from the same ground and with only a little more work, as does the man who grows the 5 bushel per acre sorghum. The difference between the yield of bin selected seed and that of field selected seed is not usually so great as this however, but on irrigated ground the difference may easily amount to $10 per acre at present prices, and in dry farming regions it may easily be $5 per acre.

These values will set the practical man in the farming business to thinking, and to planting the higher yielding seed. The only way he can get the higher yielding seed is to select his seed or to get seed from some one who has selected for him, and there is not enough selected seed to supply the planters in this State.

### Sorghums Respond Quickly to Selection

Sorghums and corn respond more quickly to selection than do most of our field crops. Many are aware what improvement can be made by a few years of selection in field corn. If we take an ordinary sample of Mexican or Squaw corn, containing a mixture of many colors on the same cob, and select the ears containing the most of one color, say blue, and continuously select for blue kernels, in a few years we will get pure blue corn. An experiment station took corn of one variety and continuously selected part of it to get corn which bore its ears high on the stalk, and selected another part of it to get corn low on the stalk. After six years of selection they had two varieties of corn, one bearing its ears two feet higher on the stalk than the other.

No such definite experiments have been recorded for the sorghums, but sorghums respond just as readily to selection as does corn. Milo can be selected for dwarfness and heavy compact heads. Sweet sorghums can be selected for greater sweetness, higher yield of fodder, greater leafiness and any number of other qualities. Broom corn may be selected for length and quality of brush. Sudan grass might be selected for greater leafiness and higher quality of hay.

The different qualities for which to select any of the sorghums are not given any more in detail because they vary much with the different sorghums. If you decide to select seed of any of the sorghums, broom corn, feterita, milo maize, etc., find out what the qualities of that particular sorghum should be and select to keep pure and improve that type. Avoid crossing, for only a specialist can expect good results from crossing. Be consistent. Always select for the same quality and type, and do not try to combine too many qualities in one sorghum.

**James M. McArthur,**
Extension Agronomist.

## THE PRESENT VALUE OF FARMYARD MANURE

At no time in the past has the value of farmyard manure been as great as it is now. This is due to the present high prices of farm produce, which is causing the farmer to strive for the maximum production. To get this production, the farmer, as in the past, must give some aid to the soil. In the past he could supply this aid in the form of commercial fertilizers, but now, the price of nitrogen, phosphorus and potassium, in commercial fertilizers, makes it practically impossible to use them. The farmer, then, must look elsewhere for a source of aid for the soil. Farmyard manure will go a long way in supplying this aid.

When manure is added to the soil it means that nitrogen, phosphorus, and potassium are likewise added, for in every hundred pounds of farmyard manure there is, in round numbers, two-fifths of a pound of nitrogen, one-fifth of a pound of phosphorus, and one-half of a pound of potassium, or in other words, in every ton of manure added to the soil, there is added nine pounds of nitrogen, four and a half pounds of phosphorus, and ten pounds of potassium. With an annual application of not less than four tons of manure, a large amount of these fertilizing elements are added when compared to the amounts added by the ordinary application of one of the common-prepared commercial fertilizers. This, of course, applies to manure that has been properly handeld, so that the loss of these elements has been reduced to the minimum.

In addition to the manure furnishing plant food directly, it puts the soil in a very much better physical condition, thereby better enabling it to furnish a larger supply of plant food from its own source. This it does by opening the soil, and allowing a better circulation of air, which is necessary for certain important chemical and biological changes to take place, by which, the unavailable food stored in the soil is changed over to the available food and made ready for plant use.

Furthermore, farmyard manure increases the water-holding capacity of a soil, which is a desirable thing, and especially is this true in a district of low rainfall, of medium or even high

(continued on page 9)

# Livestock

## POULTRY PREPAREDNESS

The time has arrived when every farmer keeping poultry must either give the poultry some consideration or lose money. Many people are loud in the exclamation that poultry does not pay now on account of the high cost of feed. It is an old saying that "figures do not lie;" so here are the figures.

When hens are yarded and free range is not available at any time each hen will consume in one year about 60 pounds of whole or cracked grain, about 30 pounds of ground grains, and about two pounds each of oyster shell and grit. With native or mill run bran at $2.50 per hundred pounds, corn chops at $2.50 per 100 pounds, Tankage at $3.00 per 100 pounds, corn or milo at $2.50 per 100 pounds, oats at $2.50 per 100 pounds, and oyster shell and grit at $1.50 per 100 pounds, by using the following ration it will cost for feed $2.35 per hen per year.

15 pounds bran,
8 pounds corn chop,
7 pounds tankage,

This to be a dry mash before the hens at all times.

40 pounds cracked corn or milo,
20 pounds plump oats.

This to be the grain feed fed in a deep litter of straw. The oyster shell and grit should be available all the time.

The average hen of the United States produces about 6½ dozen eggs per year. The average price of eggs this year is approximately 37 cents per dozen. This makes the average hen produce $2.40 worth of eggs per year for the $2.35 worth of feed given her.

These prices are current retail prices and are what the farmer would be caused to pay for feed should it be necessary for him to buy, and the figures he should use should be what he could get for his produce.

Then another consideration is that these figures are for hens confined and hens on free range would not consume so much marketable feed.

Then the matter is honestly before those people who claim to be losing money. They either have hens inferior enough to be below the average of the United States or do not feed their hens properly for egg production. The causes for failures in poultry profits at this time, then, are directly traceable to the farmer. He either has poor stock or does not properly care for his good stock.

Feeling assured that good birds will return a nice net profit, every farmer should now make preparation for developing at least 100 pullets next year.

Those who have good hens and an incubator should start in early for with early chickens come early eggs and thereby early profits .

Those who do not now have good chickens should line up at once with someone for baby chicks. The demand for baby chicks next Spring gives promise of being heavy, so orders should be in now to assure getting February or March chicks.

Careful selection should now be made for breeders for next Spring. The hen in molt now or just getting through the molt is a good one to breed from. Beware of the hen that molts in the late summer or early fall. Select strong, vigorous hens, wide between the legs, long back and keel, deep from the pelvic bones to the keel bone and wide between the pelvic bones. Be wary of the hen with the muscular or hard abdomen, also the hen with the rough, coarse scales on her legs and coarse bones and cold colorless eye. Select by common sense those birds physically able to consume food to make eggs from. Select the rustler and the bustler, those hens with "pep."

Just here two old quotations are appropriate: "The hen that sits on the roost or fence in zero weather or stands on one leg in the snow all day, is not a winter layer." "The best 'egg producer' is proper food and plenty of it."

**R. B. THOMPSON,**
Poultryman.

## HOW TO SEND PATHOLOGICAL SPECIMENS FOR EXAMINATION

Quite often it happens that specimens are sent to State College for examination by the Chemist or Pathologist in an unfit state; in some cases they have reached such a stage of decomposition that a proper analysis or examination is difficult. In submitting specimens it is well to remember that after death has taken place important changes may occur, especially so when no attempt is made to pack them properly. If poisons are suspected more than one specimen should be submitted. To send the contents of the Rumen or stomachs is too bulky, but certain sections of these organs could be sent, i. e., parts of the third and fourth stomachs (of ruminants). The liver is a very important organ and also the lymphatic glands, heart, lungs, and brain. A small section of these organs could be secured, washed clean and then wiped dry, rolled in Borax, then numbered and secured in cheese cloth, the whole then wrapped in oil silk and packed in a box. The numbers should run consecutively; for example, number one, the liver; number two, the heart; and so on; the numbers could be submitted in the container or enclosed in a letter. This will expedite matters and enable the Pathologist to recognize and identify the parts without delay. The specimens should be marked plainly and directed to the State College, where they will receive prompt attention.

**E. P. Johnson,**
Extension Veterinarian.

## LETTERS TO VETERINARY DEPARTMENT

A number of letters reach the College from parties in the State informing us that they are losing stock, and at the same time no information is furnished regarding the symptoms or actions of these animals. As a rule, an immediate answer is required and a correct diagnosis; this is impossible. I would suggest that in the future parties making these inquiries would aid us in diagnosing conditions, if they give some consideration to the following hints:

Had the animals a high or low temperature, and how long?

Did they previous to death refuse their feed or water?

Were their actions normal?

If a few of these hints were observed it would be a factor in aiding us to give a correct diagnosis.

Farmers and stockmen should try and get better acquainted with the animals that they expect to make a living from; they should know their temperatures normal and subnormal; their pulse and respirations. The average temperature of the horse is 100 degrees F., the ox, 101.4 F., and the hog 102.6 F. A clinical thermometer costs little and will be found very useful. Get better acquainted with your animals.

**E. P. Johnson,**
Extension Veterinarian.

## THE PRESENT VALUE OF FARMYARD MANURE

(continued from page 6)

rainfall, but of low or no rainfall during the growing season.

Again, manure increases the ease of handling the soil, which is a commendable thing in a district of heavy, clayey soil, thereby reducing the cost of cultivation.

It sometimes happens that farmyard manure is not plentiful about the farm, and the question arises, as to what can be used instead of the manure to "loosen up" the soil, or what can be used to supply the necessary organic matter, that would be supplied by a liberal application of manure.

This organic matter can be supplied by putting back to the soil the straws, stalks and stack bottoms that are quite frequently burned to get them out of the way. While the straw and the stalks of the cereals don't as a rule have a very high fertilizing value, in so far as supplying nitrogen and potassium, they do have a high value as a fertilizer in that they supply organic matter to the soil, and this organic matter acts just the same as does the organic matter supplied to the soil in the manure. So that when the farmer burns his straw, or his old stack bottoms, he is burning that organic matter that should be given to the soil, and at this time when he is expecting the soil to produce the maximum, it is doubly important that all the organic matter in the shape of straws, stalks, and stack bottoms be returned to the soil.

Let this be a year when there will be no waste of farmyard manure, no waste of straw, or stalks, for this year is just a beginning for what the farmer must prepare for, and by starting now to build up the soil by the liberal application of farmyard manure he is making a long step forward, and will find that he can depend upon the soil to produce the maximum crop yields.

**Arnold Z. Smith,**
Assistant Station Agronomist.

## WAR WORK

Our College has been requested by the War Department, operating through the Smith-Hughes division, to establish a training place for radio and buzzer operators, and also to give a course in automobile engines and automobile work, with the view of preparing men for chauffeurs and for helping to move the Army with their trucks. This course is being offered, beginning with December 3, and any drafted man may join at any time he wishes. The course is open to men who are in the draft and who expect to go forward to serve their country; and we are simply doing our bit to help prepare these men to serve their country better and to increase their own incomes in the service.

For any information concerning this department's work, address Dean A. F. Barnes, State College, N. M.

# Fruits & Truck

## AMOUNT OF SEED TO BE SOWN IN THE COLDFRAME TO PRODUCE ENOUGH PLANTS FOR AN ACRE

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One of the perplexing questions confronting the amateur gardener is how many seeds should be bought and how much coldframe or hotbed will be needed to produce enough plants for an acre of land. If the price of the seed were the only consideration, one could buy a large quantity, plant the amount needed,, and throw the others away, cauliflower and one or two other expensive seeds being exceptions. The space in the coldframe, on the other hand, is valuable. The proposition then is to plant enough seed for the intended acreage, but no more than will be needed.

Only a few of the plants commonly started in coldframes or hotbeds will be considered here. Following is a list of plants, the distances they are usually planted and the number of plants needed for an acre:

| | | |
|---|---|---|
| Early Cabbage | 15 x 24 inches | 17424 plants per acre |
| Cauliflower | 18 x 24 inches | 14520 " " " |
| Chile | 24 x 36 inches | 7237 " " " |
| Eggplant | 18 x 24 inches | 14520 " " " |
| Head Lettuce | 15 x 15 inches | 27878 " " " |
| Tomato | 36 x 60 inches | 2904 " " " |

The above table shows how many plants are needed for an acre, so the next question is how are these amounts to be obtained. The following tables give the number of plants that may be grown in a row in the coldframe and also how far apart the rows should be for the plants named above.

| | | | |
|---|---|---|---|
| Cabbage | 4 plants to the inch, | rows 5 inches, | about 200 plants per row |
| Cauliflower | 4 plants to the inch, | rows 5 inches, | about 200 plants to the row |
| Eggplant | 4 plants to the inch, | rows 5 inches, | about 200 plants to the row |
| Chile | 4 plants to the inch, | rows 4 inches, | about 200 plants to the row |
| Tomato | 4 plants to the inch, | rows 4 inches, | about 200 plants to the row |
| Lettuce | 4 plants to the inch, | rows 4 inches, | about 200 plants to the row |

All standard coldframes and hotbeds are six feet wide, but there is some room taken up at the front and back which cannot be utilized for plants, therefore the actual length is reckoned at about five feet. If there were four plants to every inch of row in the frame, there would be 240 plants in each row, but there will be some skips and some thin places, and places where the plants are not strong, etc. All of these factors make it safer to figure on 200 strong plants to the row. Then from the foregoing tables, the following may be deduced:

| | Seed in an ounce | Ounces needed for acre | Seed needed for one row in cold frame | No. rows in cold frame for 1 acre | Feet of cold frame needed for 1 acre |
|---|---|---|---|---|---|
| Cabbage | 8505 | 4 | 400 | 87 | 36 |
| Cauliflower | 10628 | 2.7 | 400 | 72.6 | 30.2 |
| Chile | 4252 | 5.4 | 400 | 58 | 24 |
| Eggplant | 7087 | 4 | 400 | 72.6 | 24.2 |
| Lettuce | 22680 | 2.4 | 400 | 139 | 46.3 |
| Tomato | 8750 | 0.5 | 400 | 14.5 | 4.8 |

It will be noted that 200 plants per row are figured on, and that 400 seeds are estimated as the number needed. This is because it is better to plant a few more seed than are needed and thin the plants, and it must be remembered that all of the seed will not germinate and make strong plants. The cabbage, cauliflower and lettuce, especially, should have the more fertile soil.

**J. W. Rigney,**
Assistant Horticulturist.

## DIFFERENCE IN PRICE OF BEANS

The price of 7¾ cents per pound for New Mexico Pinto Beans as against 10 to 11½ cents offered for beans from some of the other states would mean something like a loss of $2,000,000 to our New Mexico bean growers. Why there has been such a great difference in price offered for these different beans is a matter that the New Mexico Experiment Station is now investigating.

Exhaustive analyses are now being undertaken with the different varieties of commercial beans in order to find out their comparative nutritive value. These figures will be available in a few days, and it is hoped that this information may be of sufficient value to help in regulating the difference in price offered for the New Mexico Pinto Bean and the varieties from other states.

There is no doubt that the New Mexico Pinto bean is an excellent food. It is rich in protein, cooks easily and is very palatable.

On page 35 of Station Bulletin No. 105, on "New Mexico Beans," the following percentages of protein are given on a few of the varieties grown. It will be seen that the New Mexico Pinto bean is .44 per cent. higher in protein than the Navy bean:

**Nutritive Value**

| Variety | Percentage |
|---|---|
| Ancient Yelow | 21.88 proteid |
| New Mexico Pinto | 21.88 proteid |
| Bayo | 23.19 proteid |
| Tepary | 19.69 proteid |
| Navy | 21.44 proteid |
| Black Eye | 19.69 proteid |

These figures are on the wet basis.

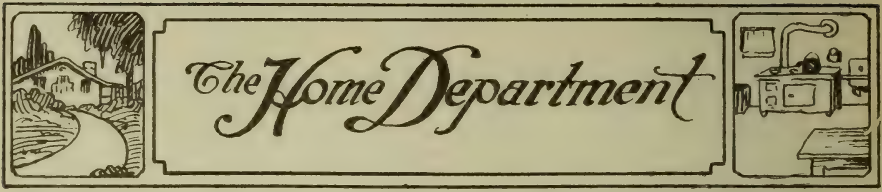
**Fabian Garcia.**

## THE THREE B's

A two-line report of a Kentucky countya gent to the United States Department of Agriculture speaks volumes. This is his succint account of his work:

'Hod a meeting at the courthouse. I talked on whipping Germany with three B's—bread, bacon and beans."

# The Home Department



## CLUB PROGRAM

### PREPARING AND SERVING MEALS

A. Preparation of Meals.

Economy in preparation of meals:

1. As to cost of raw materials.
2. As to waste in preparing material.
3. As to housewife's time and energy. (In this conection a discussion of household conveniences would be appropriate.)
4. As to fuel. (The fireless cooker, the pressure cooker, and the makes of oil stoves may be profitably discussed under this topic.)

B. Demonstration.

1. An inexpensive cake.
2. A loaf of bread—using ¾ of wheat flour and ¼ of kafir, feterita, or other substitute for wheat flour.
3. A meat substitute.

(These articles may be prepared the day before, or at the meeting, depending upon the nature of the article. Let the recipes be given and the cost of these articles discussed by the club members.)

C. Table Service.

1. Table coverings.
2. Arrangement of places or "covers."
3. Placing of silver.
4. Placing of napkins, tumblers. etc.
5. Serving.

In handling this topic the discussion might accompany the demonstration. Let one woman give the discussion while several others do the illustrating With one woman acting as hostess, one as host and two as guests, this demonstration could be given in the form a dinner party. Whether or not actual food shall be served would be a question for the ladies themselves to decide.

Ask your local hardware merchants for literature on kitchen conveniences, the fireless cooker, the various makes of oil stoves, and in communities where there is a very well stocked hardware store the merchant would be glad to arrange an exhibit for the benefit of the Home Economics Club.

### TABLE SERVICE

A. Setting the Table.

1. **The Covering**:—Cover the table with an asbestos pad and over this place a silence cloth of double faced cotton flannel, felt, or the regular silence cloth material. Over this lay the table cloth smooth and straight.

II. **Places or "covers"**:—Arrange these opposite one another and equal distances apart.

III. **Silver**:—Only five or six pieces of silver are placed at each cover, the extra pieces being brought on when needed for the courses. Place the knife and fork about an inch from the edge of the table and far enough apart to accomodate the size plate to be used. Place the knife on the right with the edge toward the plate, and the fork on the left. Place the rest of the silver so that the piece to be used first will be farthest from the plate, i. e. arrange to "eat from out in." Place the spoons on the right and the forks on the left. The oyster fork is the only exception to this rule—it should be placed at the extreme right.

IV. **Tumblers:**—Set the tumbler at the point of the knife.

V. **Bread and Butter Plate:**—This should be placed at the tip of the fork.

VI. **Napkin:**—Place the napkin at the left of the cover with the fold on the upper and left side.

VII. **Serving Silver:**—Place the spoons, knives, and forks for serving either on the dining table or on a side table near by.

VIII. **Dishes:**—If placed upon the table, the gravy boat, bread plate, dishes of relishes, etc., should be placed within the line formed by the tumblers.

IX. **Place Cards:**—Lay the place cards on the napkins. If very elaborate ones are used they may be set above the covers.

X. **Salad Plate:**—If the salad is served with the main course the plate is placed at the left of the dinner plate.

XI. **Extra Side Dishes:**—An extra side dish may be placed at the right of the dinner plate, but if that place is occupied by tea or coffee cup, the side dish may be placed between the tumbler and the bread and butter plate.

XII. **When Meal is Ready:**—The glasses are filled, the butter is served, and the hostess announces the meal.

B. Placing the Diners.

1. Place the hostess nearest the parlor or living room, because she

(continued on page 15)

## HOMEMAKERS' WEEK AT STATE COLLEGE

Home-makers of New Mexico should bear in mind that the week beginning January 14, 1918, is Farmers' and Homemakers' Week at State College.

Miss Margaret H. Haggart, head of the Home Economics Department at Kansas Agricultural College, formerly in charge of the Home Economics Department at State College, will lecture and demonstrate each day on subjects of interest to housekeepers.

Much other work of value is being planned most of which emphasizes the conservation of wheat, sugar, animal fats and meats. Methods of bringing about food conservation by substitution of other foods for those above mentioned will be suggested and demonstrated.

Following is a partial list of the subjects to be treated by specialists:

Lecture:—Comparative Food Values.

Demonstration:—Boning a chicken.

Lecture:—Home Nursing.

Lecture:—The Hot School Lunch.

Demonstration:—War Breads.

Demonstration:—Corn Meal as a Substitute for Flour.

Lecture and Demonstration:—Sugar Savers.

Home Economics Work Among the Spanish-speaking People.

Lecture:—Milk Sanitation.

Lecture and Demonstration:—First Aid.

Demonstration:—Use of Beans in the Diet.

Lecture and Demonstration:—Preservation of Eggs for Winter Use

Other attractions will be arranged later.

The Farmers' and Homemakers' Short Course is given to the people of New Mexico free of charge. No woman who can spare the week from her home duties can afford to miss it.

# Boys' and Girls' Clubs

## THE THIRD STATE ENCAMPMENT

To say that the third state encampment for boys and girls in Club Work was a success is putting the fact in a very conservative way. In order to have realized the full measure of success, it would have been necessary for one to have been a member of the Camp or a frequent visitor.

Twelve Counties were represented at the Camp, with attendance as follows:

| County | Club Members | Chaperons | Visitors |
|---|---|---|---|
| Bernalillo | 6 | 1 | |
| Chaves | 6 | 1 | |
| Curry | 8 | 1 | 1 |
| Colfax | 9 | 2 | |
| Dona Ana | 7 | 3 | 11 |
| Eddy | 6 | 1 | |
| Guadalupe | 2 | 1 | 4 |
| Santa Fe | 0 | 2 | 10 |
| San Miguel | 11 | 1 | |
| Torrance | 8 | 1 | |
| Union | 8 | 2 | |
| Valencia | 6 | 1 | |
| | 77 | 17 | 26 |

Extension workers and helpers--16
Grand total------------------136

The Chamber of Commerce of Santa Fe certainly deserves the larger portion of credit for the success of the Camp. It was they who provided the comfortable quarters, furnished the food and premium ribbons. The School Board turned practically the whole of its Catron school building over to the camp, including its domestic science department and janitor service. We could not have asked for better quarters and service than that furnished by Santa Fe.

Major Toulouse provided the table, directed the service and looked after the comforts of the Campus. This left the club leader free to arrange the exhibits and carry out the daily program.

The exhibits were more in number and better in quality than have ever been presented before at a state contest. There were thirty-three exhibits in field crops, including corn, milo, kafir, and potatoes. There were thirteen garden and canning exhibits, twelve poultry, eighteen cooking and thirty-four sewing. These exhibits all being along the line of industrial education were greatly enjoyed by the teachers atending the State Educational Association.

A daily program was carried out to the bugle call, which was in the nature of a training school for Club Leaders. Mr. O. H. Benson, in charge of Club Work for the thirty-three northern and western states, was present from the Washington office and conducted the training school. There was something inspirational and educational in every demonstration and lecture he gave us. We are quite sure a better understanding will exist from now on as to what Club Work really is and what its rightful place is in our educational system. Mr. Benson also addressed the Teachers' Associations on the problems Club Work will help solve in educational matters and its value in training boys and girls for better citizenship. "During the war program," says Mr. Benson, "the 4-H emblem in Club Work stands for this pledge. 'I pledge my **head,** my **heart,** my **hands** and my **health,** through food production and food conservation, to help win the world war and world peace.' " Every Club member present and every Club leader has taken this new oath of allegiance.

Other speakers helped make the Club program a success. The boys and girls were delighted with the opportunity of hearing Governor Lindsey, Chief Justice Hanna, State Superintendent Wagner, Judge Holloman and others. All of these men had messages worth while and they made the boys and girls feel that young people have a part in the affairs of life as well as the old.

The crowning event of the Club program was the awarding of County Banners to the best Club in each of the ten counties where most of the Club Work has been done. A State banner was given and awarded by Superintendent J. H. Wagner, to the Club having the best all-round record in the State. The fortunate Club was a group of seventeen girls living at Old Mesilla, Dona Ana County. They have been working under the leadership of Miss May Forwood and sister. These girls did sewing, cooking and canning, but the banner was awarded especially for the Sewing Club Work. It was certainly a great pleasure to see how delighted the girls and their leaders were over the success of their achievement. Thy had a right to feel delighted. This Club also won the County Banner for Dona Ana County.

All in all this Club Camp was the best ever held in New Mexico.

**W. T. Conway,**
State Club Leader.

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## TABLE SERVICE

(continued from page 13)

leads the way out of the dining room at the close of the meal.

II. Seat the host opposite the hostess.

III. If the guest of honor is a lady she should be seated at the right of the host.

IV. If the guest of honor is a gentleman he should be seated at the right of the hostess.

V. Seat other guests with regard to congeniality regardless of sex.

C. Serving the Meal.

1. The service should be as unobtrusive as possible. If the hostess serves, the menu should be so planned that she may leave the table as few times as possible in serving. By having a tea-wagon (one or two trays mounted on wheels) the service by the hostess is greatly simplified.

**Example:** In planning a meal in which the hostess does the serving let cold meats. caserole or scalloped dish take the place of broiled meat, because the latter would require the presence of the hostess in the kitchen too long a time immediately preceding the call to the meal.

(to be continued next month)

## January 14-19, 1918

# *Farmers' Week*

and

# *Homemakers' Conference*

at the

## *State Agricultural College*

Specialists in practically every line of agriculture will be on hand to give lectures and answer questions. If you want reliable information, progressive ideas, money-making and money-saving suggestions, if you want to be a better farmer or a better homemaker.

## COME

Reduced rates on the railroads. Rooms reserved on request.
No charge is made for attendance
Write for Program

## *Extension Service*

State College, New Mex.

(Don't forget the Neighbors.)

**The annual conference of County Agents and Home Demonstration Agents will be held January 7 to 12, inclusive.**

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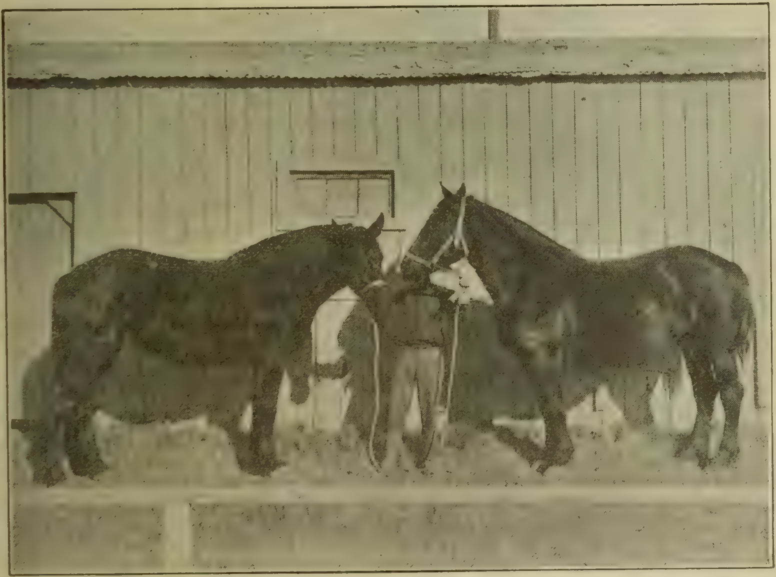
# THE NEW MEXICO FARM COURIER

VOL. VI. JANUARY, 1918 No. 2



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## The New Mexico Farm Courier

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AUSTIN D. CRILE.. President of College
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY....Director of Extension

**Extension Staff**

A. C. COOLEY, Director and State Leader
W. L. ELSER, State Leader Farm Management Demonstrations and Assistant State Leader County Agents.
MISS TURA A. HAWK, State Home Demonstration Leader.
ROLAND HARWELL, Asst. Emergency Demonstation Leader.
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E. P. JOHNSON, Extension Veterinarian.
J. M. McARTHUR, Extension Agronomist.
A. F. GRIMMELL....Executive Secretary
JESSIE HORNIDY..........Stenographer
RUTH S. BRONSON........Stenographer
VELMA WARD............Stenographer

**County Agricultural Agents**

ORREN BEATY, Clayton, Union County
H. H. BROOK, Las Cruces, Dona Ana County.
W. M. ELLISON, Jr., Silver City, Grant County.
M. R. GONZALEZ, East Las Vegas, San Miguel County.
J. G. HAMILTON, Los Lunas, Valencia County.
J. W. KNORR....Carlsbad, Eddy County
D. F. LAUBMANN, Santa Rosa, Guadalupe County.
V. L. MARTINEAU, Raton, Colfax County
H. S. MOLES, Aztec, San Juan County
E. PETERSON, Clovis, Curry County
H. P. POWERS, Socorro, Socorro County
F. E. QUINTERO, Taos, Taos County
J. M. RAMIREZ, Santa Fe, Santa Fe County
R. R. ROBINSON, Roswell, Chaves Co.
STUART STIRLING, Carrizozo, Lincoln County.
R. L. STRONG, Estancia, Torrance County.
E. J. WILSON, Hillsboro, Sierra County.
E. M. YATES, Tucumcari, Quay County.

# EDITORIALS

## SEED FOR SPRING PLANTING

There is no time like the present to make preparations for the Spring Planting. There is a shortage of good seed at the present time and this shortage will become more acute as the planting season draws near. It therefore behooves every farmer in New Mexico to provide himself at once with a sufficient quantity of seed to take care of his Spring needs. Seed that is much better adapted for planting under New Mexico conditions can be secured in the majority of cases and at the present time right in the community in which it is to be planted. This being generally true, if the opportunity is allowed to pass whereby no seed is now purchased to meet your Spring requirements, that seed, now available in your community, will have been sold in all probability, thus necessitating the importation of seed from the outside, when you will need it later, which will be at higher price than that which he is now able to secure it in his own neighborhood, besides enjoying the advantage of knowing that the seed is adapted for use under the peculiar farming conditions incident to his particular locality.

Those who are in need of seed should make their wants known to their local County Agricultural Agent (always located in the county seat of every county employing one) and those who have good seed for sale will render their community, county, state and nation a very valuable service by listing the various kinds of seeds on hand and the amounts of each with the County Agricultural Agent, in order that this very important information may be whipped into such shape as to meet the actual and pressing needs of the farmers of New Mexico.

## SYSTEM ON THE FARM

(by C. N. Dugger)

The volume of the farm business should be large enough so that the labor can be employed effectively. One of the common methods of increasing the effectiveness of man labor is by the use of machinery of large capacity and the horsepower adequate for such machinery. Also the labor should be distributed as uniformly as possible throughout the year. A layout of the farm, especially the arrangement of fields and location of buildings for the greatest convenience in carrying on the farm operations, is important in utilizing labor to the best advantage. Improving the yield of crops and the productive quality of livestock helps to make labor more efficient. It is essential that the different kinds of work be planned for their appropriate seasons, and adjusted as much as possible to meet the particular conditions necessary for each kind of work. The labor problem has a solution, in part at least, in organizing an adequate all-year-round business and in directing the labor intelligently from day to day and from week to week. In other words the solution is summed up in the word "SYSTEM."

## VALUE OF COUNTY AGENT WORK

(by A. C. True)

The American sysem of agricultural extension work is being developed with the fundamental idea that the personal work of agents resident in the several farming communities is far more satisfactory than the distribution of information through publications or correspondence or even the lectures and demonstrations which may be given by experts coming occasionally from the agricultural colleges or departments of agriculture. Publications and the work of experts are excellent features of the extension system but unless they are supplemented by the County Agents, the whole system will be weak and comparatively ineffective. The good county agent will speedily come to know the people and agriculture of his county as on outsider can. He will be ready and able to help his people in many ways not open to anyone else. He will then have them organized to help themselves and one another. He will bring to their attention the best features of their farming and their home and community life. And he will be in such relations with the outside forces that he can bring into the county, in one way or another, all the available knowledge bearing on the problems of farming and country life there.

In these war times he will be furnished with the information which the various agencies of the nation and the States have to communicate regarding public policies and requirements relating to agricultural and other affairs. He will also be expected to furnish the State and National governments such information as will reveal to them the agricultural conditions of his county and what the farming people are doing or can do for the public welfare. In large measure he will be the recognized leader in the county through whom the forces seeking agricultural advancement and the general good in these trying times will operate. A county without a county agent is depriving itself of much knowledge and influence in rural and national affairs, which it might otherwise have.

## FARMERS AND THE INCOME TAX

### A Duty That Must Not Be Neglected

(by Alson Secor)

Maybe heretofore you have not paid any attention to the income tax. It is time you did, because a failure to report your income before March 1, 1918, will cost you dearly—for the penalty is from $20 to $1000 fine and in addition fifty per cent. of the taxes due. If you fail to give truthful answers to the questions on the blank the fine will not exceed $2000 or will not exced one year's imprisonment, or both, in the discretion of the court. In case of sickness or absence from home you may get an extension of time by written aplication to the Collector of Internal Revenue, in which must be stated the reasons why the return cannot be rendered in the time prescribed by law.

If you dodge this tax this year and next, or for years to come, look out for the day of reckoning when somebody reports you and the Government collects all back taxes with the penalties of five per cent. of the amount of tax due and one per cent. interest for each full month during which the tax remains unpaid. It is cheaper to pay every year, and try not to dodge it.

### Who Must Report Income

Every unmarried person having a net income of $1000 or more, and every married person having a net income of $2000 or more, in 1917, must report before March 1, 1918 to the Collector of Internal Revenue for the district in which the taxpayer resides. It is necessary that you find out whether you have an income that will make you taxable under the new law. So you beter get out your pencil and do some figuring.

The law defines income as profit, gain, wages, salary, commissions, commerce, trade, rents, sales or dealings in property, real or personal, and interest from investments except interest from Government bonds or any state, municipal, township or county bonds. Income from service as guardian, trustee or executor, from dividends, pensions, royalties , or patents, or oil or gas wells, coal land, etc., and **income from all sources** are taxable under the law, if the net income from all sources comes to the sums named.

It is going to be some task for a farmer to find out what his income was. Few keep books, especially of the smaller items bought and sold. It is counted as sale if you take butter, eggs, apples, potatoes or any product you have raised to the store and "trade it out" for groceries, wearing apparel, or what not. Living expenses cannot be deducted, so you must figure the value of the farm products traded for something, as tho you sold the products for cash. It is nothing to the tax collector whether you got cash or sugar for the product.

The same is true of real estate. If you sold part or all of the farm they figure as profit or income the difference between the cash value March 1, 1913, and the price for which sold, or the difference between its cost and selling price if acquired on or after March 1, 1913. Rents are considered income whether paid in cash or in part of the crop or otherwise.

### What is Exempt?

Of course there are exemptions. The single person who is supporting dependant children or dependant parents or crippled relatives who cannot help support themselves is considered the head of a family and has the same exemption—$2000—as a married person. Unmarried persons with incomes of less than $1000 and no dependants are exempt from the tax.

Where husband and wife both have incomes they can report together and claim one exemption, or report separately, and divide the one exemption between them. In case they are divorced or living apart, the one caring for the children can claim full exemption and the other only $1000.

There is an **exemption** to the extent of $200 for each dependant child under eighteen years of age. Suppose your net income figured up to $2800 and you have four dependant children under eighten years, you would be allowed $800 deduction for them.

### Other Exemptions

There is a certain depreciation in the value of property which is exempt. It runs as follows: five per cent. on frame buildings and two and one-half per cent. a year on brick or stone buildings, ten per cent. on the cost of farm machinery and implements. But this deduction must be based upon actual depreciation thru use or partial destruction. If its value is the same as the year previous there is no deduction.

In case of loss by fire, theft, or storms, not covered by insurance, you **can deduct** the fair market value of the property. This applies also to machinery, implements and farm buildings. You **can deduct** losses in trade or businesss provided the loss was actualy suffered. But you **can't deduct** for hogs lost from cholera or cattle from sickness unless you had bought them, and then only in the amount you paid for them. Neither can you deduct for loss of any stock or grain or feed that you have produced, because you are not required to report on these until sold.

You **can deduct** incomes from liberty bonds, and certain other public bonds, and gifts to religious or charitable or educational institutions to the extent of fifteen per cent. of your taxable income, provided no part of the gift goes to an individual stockholder in said institution for his benefit.

All salaries or compensation paid by the state or political subdivisions of the state are exempt. That is, if you are a county supervisor or something whereby you get a per diem or salary, this does not have to be counted in the income tax report.

### What Is Not Exempt?

Your living expenses **are not to be deducted** from the total. And you **cannot deduct** any charges for any personal service rendered in the business, or for any member of the family working at home. You can't allow for a salary to yourself. But you **can deduct** for cash paid hired help as a part of the running expenses of the farm. Even where sons or daughters work for the parents at a wage, the wage must be paid in cash as to strangers and then this expense may be deducted. If this is done to avoid the tax, there is a severe penalty.

"All necessary expense acually paid within the calendar year in carrying on the business" **may be exempt** from taxation. The question is: What is necessary expense? The family and personal expenses are not so considered. Your groceries, fuel, light, clothing, things like a piano for the home, are personal or family expense and **not deductable.**

But you **can deduct** taxes, **except** income taxes and those assessed against local benefits **Deduct** interest paid on your indebtedness, insurance **except** on your dwelling; seed and feed purchased, stock bought for re-sale, cash paid for hired help, but **cannot deduct** as part of the wage the value of their board, lodging or washing.

You **can deduct** for the necessary repairs, but **not** for permanent improvements, **nor** for new machinery. You **can deduct** for small tools, and for the cost of running your machine, such as tractor, threshing machine, etc. Howevere you **cannot deduct** for the cost of running the family auto if used as a pleasure car. If used only as a part of the farm machinery to run about on business its cost of operation **can de deducted.**

In brief this is the new income tax law. It is up to you to see the income tax man. Don't think the tax does not apply to you. Find out by talking with him and when you go to see him have all figures ready showing what you took in and what you paid out.

The Government is going to send its income tax men out where it will be easy for you to get to them. An income tax man is going to be in every county in every state in the Union some time between January 2nd and March 1st. Watch the local newspapers or ask your banker or postmaster when he'll be there,, or near your place, and then go and see him. He will have a tax form for you, help you make it out, answer all your questions, and won't charge you anything for his services.

Don't neglect the income tax, because if you do you'll regret it later when the Government finds you out, as it will, and makes you pay the penalty for failure to obey the law.

## CONSERVE THE GASOLINE

A big touring car trailing a cloud of dense black smoke whizzed by. "That man is doing his bit to help the Kaiser win the war," remarked a bystander. He was right. The side that first runs short of gasoline for its motorcycles, trucks, tanks, submarines and aeroplances will never have a chance to dictate the terms of peace; and the car that gives out black smoke is using at least twice as much gasoline as it needs. The smoking auto not only takes a direct slap at Uncle Sam but also is puffing out its owner's nickels, dimes and dollars and is sure to make a short trip to the junk heap.

The smoke is caused by the use of too much lubricating oil for the cylinders or by too much gasoline. The latter gives black smoke, the former white or bluish gray.

Excessivle lubrication is not so serious in its effects as excess fuel, but it is usually harder to remedy. If adjustment of the cylinder oil feed is not feasible or is not effective, the trouble may sometimes be overcome by drilling six or eight one-eighth inch holes thru the piston shell about an inch forward from the wrist pin. This method is used successfully at many of the garages. White smoke may also be due to leaky piston rings, scored cylinders, or adulterated oil. Many inferior lubricants are on the market. Good cylinder oil for gasoline engines does not burn except at very high temperatures, and if it does burn it either burns completely or else leaves a residue which is itself a good lubricant.

With black smoke it is much more serious. It is caused by using "too rich a mixture," that is, too much gasoline for the amount of air taken into the cylinder. This smoke is made up of minute particles of carbon or lamp black which might have burned and furnished more power but could not do so for lack of air. Much of the unburned carbon is deposited on the inside walls of the cylinder. This greatly increases friction, cutting down the available power of the engine and making its running sluggish and irregular. The accumulated carbon also causes a trouble known as pre-ignition. This is accompanied by heavy knocking or pounding. In extreme cases the engine is stalled completely.

Evidently to avoid this trouble the carburetor must be adjusted to admit less gasolinee. Since there are almost as many kinds of carburetors as makes of cars, no rules for adjusting will fit all. The same general principles apply, however, and may be illustrated by detailed directions for two types.

Take first the type having only one adjustment, that of the needle valve, made from the dash while running. After the engine has been warmed up by a few minutes run, gradually close the needle valve, until the engine begins to mis-fire (indicated by a popping sound from the exhaust); then open slightly. Especially for long runs at high speed a great saving of gasoline can be secured in this manner The difference between correct setting for starting (engine cold) and for high speed running (engine warmed up) may be as much as three-fifths of a turn (Ford, Holly, Kingston and similar carburetors.)

Taking the type having an adjustable "auxiliary air" valve, two adjustments are made: one for low speed and one for high. With the car standing still run the engine at low speed. Tighten the spring of the auxiliary air valve so it cannot open at all. Adjust the needle valve till so nearly closed that the engine begins to miss explosions occasionally. This can readily be observed by noting the sounds. Then open the needle valve a very little. A fiftieth part of a turn will be about right on most engines. Now changing to highest speed will cause too strong suction and consequent admission of too much fuel. Hence more air is needed Leaving the needle valve as previously set for slow speed, relieve the suction by loosening the auxiliary air valve spring until the engine begins to show signs af mis-firing as before. Tighten again slightly. If the carburetor is properly designed and built it will now give an approximately correct mixture at all speeds so long as the same grade of gasoline is used and so long as the moisture and pressure of the air remain the same. On getting a new supply of gasoline, especially if it be a lower grade, it may be found necessary to readjust.

Reliable data from tests made on standard makes of gasoline engines show that **it is possible to use two and one-half times as much gasoline as is needed for best working and maximum power without any appreciable smoke.**

The cutting down of fuel until the engine misses and then slightly increasing the feed will give satisfactory results. In case fuel and air supply are both adjustable from the driver's seat (as they should be), the same tests and adjustments can be made while running. It must be remembered however that a cold engine always needs a richer mixture.

When a carburetor is set for good economy of gasoline, it will be found a little harder to start the engine when cold. An excellent way to avoid this difficulty is, on making the stop for the night, to "kill" the engine by 'choking" the air supply to the carburetor. This floods the cylinders with a very rich mixture. Besides faciliating starting and saving the starting battery this method causes the extra gasoline in the cylinders to losen up any carbon deposits and gummed oil that may be behind the piston rings. This gives better compression ,more power, and smoother running.

Another cause of large gasoline loss is leakage from storage tanks; especially from faucets, and from the valves and connections between carburetor and reservoir. A car owner recently complained of the small mileage per gallon he was getting from his machine. Investigation showed four separate leaks in the gasoline line to the carburetor—two of them dripping. Even a leak so small that all the gasoline from it evaporates will waste several gallons in the course of a year. The remedy usually is simply to tighten up conections, using a wrench. For valves and drain cocks, turning and at the esame time pushing in strongly is sometimes effective. If not, taking the cock apart and replacing after rubbing a bit of common soap on the surfaces will stop the leak.

Running a car with one or more cylinders of the engine mis-firing is another very common cause of gasoline loss. If one cylinder in four is not working, just about one-third more gasoline is required to maintain the same speed. The remedy for misfiring is to locate and remove the cause (often loose or broken wire or spark-plug foul with carbon, or defective.)

**A. H. Hoffman,**
Dept. of Agricultural Extension.

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The following is the first news letter on Special Tractor Six Weeks Course, to be given at the New Mexico Colege of Agriculture and Mechanic Arts, commencing

### FARMERS' WEEK
### January 14-19

As many farmers are well aware, this country is faced with an enormous shortage in farm labor, and in fact the success of our armies in the present conflict depends upon the ability of the American farmer to increase the food supply of the world. This farm labor shortage is being met in practically all the western states by turning to tractor farming. In New Mexico itself the number of tractors in use has increased materially during the last year, and the outlook is that their use will continue to grow by leaps and bounds. The tractor is a piece of farm machinery that has come to stay. At the present time there is a great shortage of men properly trained to handle tractors and to keep them in repair. So great is this that the editors of agricultural magazines and other influential men have requested that the New Mexico College of Agriculture & Mechanic Arts this year give a short course on the upkeep and operation of gas tractors. Many of the tractor manufacturers have agreed to cooperate with us, and we will have on hand excellent equipment to carry out this plan. The work will be taught by a man who who has not only studied tractors, but has had practical farming experience with them. It will cover a general understanding of gas engines and tractors, together with experience in repair and operation.

If any farmer is contemplating the purchase of a tractor and is not familiar with its operation, he can come here, take this short course and go back with a knowledge of his machine that means success of operation during the first year. The greatest drawback in the use of farm machinery is the lack of understanding of its construction, and just such a course as this is what is needed to make its use

(continued on page 16)

## FARMERS', STOCKMEN AND HOMEMAKERS' WEEK

### Program

**Monday, January 14, 1918**

9:00 A. M. Registration.

9:50 A. M. Music.
College Orchestra

10:10 A. M. Welcome to Visitors.

10:30 A. M. "Cold-Frames and Hot Beds."
J. M. Franklin,
Asst. Horticulturist.

11.15 A. M. "War Gardens and What to Grow in Them."
Fabian Garcia,
Director of Experiment Station.

12:00 A. M. Noon.

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1:30 P. M. Music.

Some 1918 Problems in Farm Economics.
R. S. Trumbull,
Agricultural Agent.
El Paso & S. W. R. R.

2:15 P. M. Growing of Hogs for the Commerical Market.
Fred Yeaw,
Manager Oasis Ranch,
Roswell,, N. M.

3:40 P. M. Selecting, Breeding and Feeding Hogs. (Demonstration)
Cleave Humble,
Asst. in Animal Husbandry

**Tuesday, January 15, 1918**

9:00 A. M. Soil Analyses and Their Value.
L. A. Higley,
Professor of Chemistry

10:00 A. M. The Agricultural College and the Smith-Hughes Bill.
A. D. Crile,
President N. M. A. C. & M. A.

10:45 A. M. Seed Selection (demonstration)
J. M. McArthur,
Extension Agronomist.

12:00 A. M. Noon.

1:30 P. M. New Mexico's 1918 Crop Campaign and What to Grow This Year.
R. S. Trumbull,

2:15 P. M. Results of Variety Tests on Grains.
R. L. Stewart,
Professor of Agronomy.

3:00 P. M. The Standardization of the New Mexico Pinto Bean.
Hon. Isaac Barth.
of Albuquerque.

3:45 P. M. Common Diseases Among Live Stock and How to Treat Them.
Dr. E. P. Johnson.

7:30 P. M. Music.

Patriotic Address by Antoinette Funk, National Vice-Chairman of Liberty Loan Committee.

**Wednesday, January 16**

9:00 A. M. The Silo
J. E. Watt,
Extension Dairyman.

10:00 A. M. Better Range Management as an Important Factor in Reducing Losses of Livestock in Time of Drought.
C. L. Forsling,
Grazing Examiner, U. S. Forestry Service.

11:00 A. M. Marketing Farm Products.
C. A. McNabb,
Specialist in Marketing,
Oklahoma City, Okla.

12:00 A. M. Noon.

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1:30 P. M. A Cropping System for Regions of Limited Rainfall.
H. M. Bainer,
Agricultural and Industrial Agent
for the Santa Fe System.

2:30 P. M. Feeding Dairy Cows and Calves Under War Conditions.
R. W. Latta,
Manager of the Rio Grande
Valley Dairy Association.

3:00 P. M. Farm Machinery and its Care.
Fred Yeaw.

4:00 P. M. A Tractor Demonstration.
J. J. Kropff,
with International Harvester Co.

7:30 P. M. College Play.

Patriotic Address
Antoinette Funk.

### Thursday, January 17, 1918

9:00 A. M. New Mexico Losses Due to Insect Pests. D. E. Merrill, Professor of Biology.

9:40 A. M. Securing Farm Help for the Farmer. J. O. Miller, Farm Help Specialist.

10:10 A. M. Selecting, Breeding Stock for Egg Production (demonstration.) R. B. Thompson, Professor of Poultry Husbandry.

11:10 A. M. The Farm Woman's View Point. Mrs. W. A. Warner State Chairman Texas Federation of Women's Clubs.

12:00 A. M. Noon.

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1:30 P. M. First Aid to the Injured. (A demonstration of how to take care of sick animals.) Dr. E. P. Johnson, Extension Veterinarian.

2:15 P. M. Selecting Live Stock. Demonstrations. (Meeting will be held at College Farm)

Dairy Cattle—Dr. A. D. Crile, J. E. Watt and J. R. Meeks.

Beef Cattle—Professor Foster and Dr. A. D. Crile.

Draft Horses—President A. D. Crile.

7:30 P. M. Music.

Mrs. W. E. Lindsey, Chairman of Women's Auxiliary

The Work of the State Council of Defense. Hon. Chas. Springer, Chairman State Council of Defense, Santa Fe, N. M.

### Friday, January 18

9:00 A. M. Sheep on the Farm. Prof. Luther Foster.

10:00 A. M. The Income Tax and the Farmer. W. L. Elser, Ast. County Agent Leader.

10:45 A. M. Rodents and Predatory Animals. Hon. Chas. Springer.

1:30 P. M. Problems in Marketing Livestock C. A. McNabb, Specialist in Marketing. Oklahoma City, Okla.

2:15 P. M. The Potato As an Important Factor in Winning the World War. Eugene Grubb, America's well known Potato Specialist.

3:30 P. M. The Use and Care of Gas Engines on the Farm (demonstration) Prof. Hoffman.

7:30 P. M. Music.

The Work of the United States Food Administration. Honorable Ralph C. Ely, U. S. Food Administrator for New Mexico.

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## GOOD ROADS DAY

### Farmers' Week, 1918

### Saturday, January 19

Morning Session, 10:30 to 12:00

15 Min. Introductory Remarks. Mr. Francis E. Lester, Chairman

30 Min. Dividends Brought by Good Roads—A Plea For Better Roads in Dona Ana County. Mr. Lytton R. Taylor, Las Cruces.

45 Min. Present Conditions Affecting Road Construction and Measures Necessary to Meet Them in New Mexico. Mr. Eugene Kempenich, Sec'y Peralta, State Highway Commission.

Afternoon Session, 1:30 to 4:00

45 Min. The Federal Aid Road Law; Its Assistance to New Mexico's Road Building. Mr. Charles Springer, President, State Highway Commission, Santa Fe, N. M.

45 Min. The County Highway Overseer, His Duties and His Respon- L. J. Charles,,

Asst. State Engineer, Santa Fe.

1 Hr. ·Practical Road Building and Maintenance. Mr. D. K. B. Sellers, Albuquerque.

## FARMERS' AND HOMEMAKERS' WEEK

### January 14 to 19, Inclusive

### Monday, January 14, 1918

10:30 A. M. Welcome Address. Tura J. Hawk, Home Demonstration Agent Leader.

10:45 A. M. Home Economic Work Among Spanish-speaking People. Gertrude Espinosa, Assistant in Club Work.

11:00 A. M. War Cereals. Lucille Woodard, Home Demonstration Agent, Chaves County.

12:00 A. M. Noon.

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2:0 P. M. Milk Sanitation. Dr. E. P. Johnson, Extension Veterinarian.

3:00 P. M. The Housewife's Problem. Illustrated Lecture. Margaret H. Haggart, Prof. Home Economcs. Kansas Agricultural College.

8:00 P. M.

### Tuesday, January 15

9:00 A. M. Decorative Stitches and Inexpensive Trimmings. Illustrated Lecture. Helen Thissell, Asst. Prof. of Home Economics, State College, N. M.

10:00 A. M. The Hot School Lunch. Wilma D. Evans, Home Demonstration Agent, Colfax County.

12:00 A. M. Noon.

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2:00 P. M. Boning a Chicken (demonstration) Mrs. Carrie P. Phelps, Home Demonstration Agent, Grant County.

2:45 P. M. The Square Meal. Illustrated Lecture. Miss Margaret H. Hagart, Prof. Home Economics, Kansas Agricultural College.

4:00 P. M. Fats (Demonstration) Tura J. Hawk, County Home Demonstration Agent Leader, State College, New Mexico.

8:00 P. M. Patriotic Address. Antoinette Funk. National Vice-Chairman of Women's Liberty Loan Committee

### Wednesday, January 16

9:00 A. M. Standardization of Recipes. Mrs. Elizabeh Koger, Asst. State Club Leader, State College, N. M.

10:00 A. M. Woman's Duty to Woman. Mrs W. A. Warner, State Chairman, Texas Federation of Women's Clubs.

12:00 A. M. Noon.

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2:00 P. M.
Ruth C. Miller, State Director of Indusrial Education and State Home Economics Director of U. S. Food Administration.

3:00 P. M. One-Price Meals as a War Measure (demonstration) Margaret H. Hagart, Prof. of Home Economics, Kansas Agricultural College.

8:00 P. M. College Play.
Address Antoinette Funk, National Vice-Chairman Women's Liberty Loan Committee.

### Thursday, January 17

9:00 A. M. Sugar Savers. Mrs. J. T. Stalker, County Home Demonstration Agent, Curry and Roosevelt Counties.

11:10 A. M. The Farm Woman's View Point. Mrs. W. A. Warner, State Chairman, Texas Federation of Women's Clubs.

1:30 P. M. Incubation and Brooding of Young Chicks. Prof. R. B. Thompson, Professor of Poultry Husbandry, State College, N. M.

2:00 P. M. Our Girls and Our College. Mrs. M. F. Winningham, Dean of Women, State Agricultural College, N. M.

3:00 P. M. The Farm Woman's Problems. Mrs. W. A. Warner, State Chairman, Texas Federation of Women's Clubs.

8:00 P. M. Address. Hon. Ralph C. Ely, State Food Administrator, Santa Fe, N. M.

**Saturday, January 19**

9:30 A. M. How New Mexico Can Save Wheat for the Allies. Miss Margaret H. Haggart, Prof. of Home Economics, Kansas Agricultural College.

2:00 P. M. Nursing. (Demonstration.) Margaret H. Haggart, Prof. of Home Economics, Kansas Agricultural College.

2:30 P. M. Woman and the War—Lecture. Margaret H. Haggart, Professor of Home Economics, Kansas Agricultural College.

3:30 P. M. Reception.

8:00 P. M. Music.

Address Hon. Chas. Springer, Chairman State Council of Defense, Santa Fe, N. M.

**Friday, January 18**

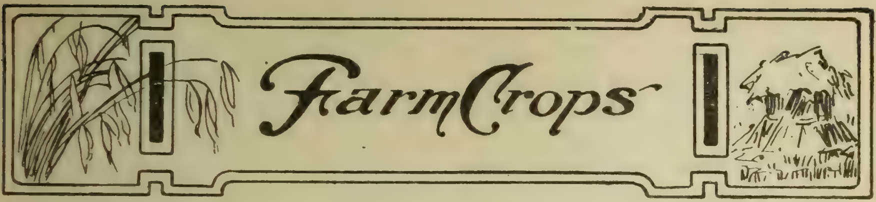
9:00 A. M. First Aid. Bertha Becker, County Home Demonstration Agent, Sandoval, Bernalillo and Torrance Counties.

10:00 A. M. Meat Substitutes (demonstration) Margaret H. Haggart, Prof. of Home Economics Kansas Agricultural College

## *Have You Seed to Sell?*

**All of the stocks of Marquis wheat, Durum wheat and other spring wheat, all varieties of corn adapted either to irrigation or to dry land or to high altitude conditions, all Pinto, Bayo and California Pink beans, all MiloMaize, Kaffir and other sorghums, and in fact the seed of practically all crops raised in New Mexico, will be in great demand at high prices this spring. The supply on hand will not fill the demand in many cases.**

**The Extension Department of the State College is endeavoring to locate all seed supplies in the State. If you have seed of any of the above crops thatisfree from mixture, sound, and free from disease, please communicate with THE EXTENSION DEPARTMENT OF THE STATE COLLEGE or with your COUNTY AGRICULTURAL AGENT, letting us know what KINDS of sed you have to sell, the QUANTITY for sale, and the PRICE F. O. B. your shipping point. You will be doing your bit toward helping increase the production of the State, and we will help you to dihpose of your seed at seed prices.**



# Farm Crops

## FARM HELP

We all realize that this nation is engaged in a great conflict. Because of the close contact with the Government authorities many of us know the seriousness of it. Mr. Charles Edward Russell, one of the Root Russian Commission, recently said, it would be better for us and our children and their children that we give our all and walk the streets as paupers than have Germany win this war. Germany is not fighting us with her armies only, but with every means her power can command. Our armies are going abroad to keep Germany's armed forces from our shores, but the open and known armed forces of Germany are not all our nation must fight.

There is on our own soil working night and day a force, secretive, cunning, almost super-human in its creative ability. Its ramifications seem limitless. We need only to recall the burning of cattle yards, elevators stored to their full capacity with grains for our soldiers and our allies, the burning of wheat fields in the northern states the past summer, the recent finding of matches in loads of cotton bound for the gin, ground glass in breakfast food bound for our army camps, to realize something of this. The calling of strikes in important industries, the agitation and restlessness among farm laborers can serve only as a hindrance to our pushing the war to a successful issue.

Recently, Mr. D. F. Houston, Secretary of Agriculture, stated the crucial battle of the war will be fought in America, not in France. America has become the vital supply base for the Allies' civil populations, as well as their armies. Unless the world battle for food is won in this country, no battles can be won "over there."

"Shortage of labor, shortage of fertilizers, high prices for farm supplies and machinery, are all handicaps in the fight, but I am confident that the farmers of the nation, pulling together patriotically as soldiers in a common cause, can meet the situation, and that those remaining on the farms can produce even more than has heretofore been available. That is the aim before us, and it must be attained."

This is a very busy world, and we are busy people. The farmers are no less busy than others. Being located away from civic centers, often the farmer is not closely in touch with happenings throughout the country and their significance. One of the happenings concerned farm help. This past year there has been a decided dislocation of labor in farming comunities. The demands of industrial concerns, the demands of the Government for men in the army and navy, and for men to build cantonments have had their effect. These demands are not ceasing but are increasing. There can be but one result—a decrease in the usual supply of farm labor.

Last year many men from Agricultural Colleges went into farming sections of the states to help in this farm labor problem. In November a conference was held in St. Louis. This conference was attended by these workers and men from the Department of Agriculture. The Secretary of Agriculture deemed the conference of great importance and attended an entire day's session.

As a war measure and as a result of this conference the Department of Agriculture and the Department of Labor, cooperating, are sending men into each state to give their entire time, coöperating with the Agricultural Colleges and all state agencies, in specialized work in this farm help question. These men will endeavor to analyze the needs of each farming community, and to offer such assistance as will aid in bringing increased production successfully through the growing and harvesting seasons.

The increasing cost of living, the hight cost of materials, the inducements of high wages from industrial centers must all be considered and met by the farmer. A great deal can be accomplished on farms by coordinating work, arranging things to be done so labor can be most economically and efficiently handled. It was found this summer that lack of planning on the part of the farmers created difficulties which had to be overcome in harvesting crops. In many communities farmers planned and organized their work. Thus they accomplished more with less help than had previously been thought possible.

What may be an apparent shortage of labor in some New Mexico communities may be solved by close coöperation among the farmers and business men of the communities. The definite planning of work, the distribution of work to be done at seasonable times, the paying of a reasonable wage, the avoiding of restlessness among laborers by erratic wage baiting, will go a long way toward solving the question, if not answering it completely.

The Agricultural College through its Extension Department will work in every community coping with any farm help problems that may arise. It will be the center of information and a source of help. Every community is earnestly requested to report to the Agricultural College or to it through the County Agent, any anticipated problems or questions concerning next year's crop. Prompt attention will be given to such inquiries and all information at the command of the institution will be furnished. This is war time and we must plan now the work we have ahead of us, if our country is to be blessed with a future of peace and good will. With cooperation and planning we can accomplish the work ahead of us.

**J. O. Miller,**
Farm Help Specialist.

## MEASURING HAY IN RICKS AND STACKS

So many inquiries have come to the College recently asking for rules for measuring hay in the rick that it is deemed advisable to publish here the most common rules. It might be said here, however, that so far as known there eis no rule yet devised for measuring hay in the rick that is absolutely accurate in all cases, but there are certain formulae that when used corectly give one a very satisfactory estimate of the number of tons in the rick, and thousands of tons of hay are sold annually on such measurement.

The problem of obtaining an accurare formulae is difficult because of the variations in the shape of the rick. Even after the number of cubic feet of hay in a rick is known, the probem of converting this into tons is difficult because of the wide variation in the shape of the rick. A tall rick settles more than a low one. A rick that has stood for months is much denser than one freshly built. The kind of hay has much to do with it. Alfalfa and clover are lighter than timothy, and hay with weeds in it does not settle down as compactly as hay with no weeds in it.

A study of this subject has been made by the office of Farm Management of the eUnited States Department of Agriculture, and the data from which these rules were made were obtained by measuring the volume of a large number of ricks and then weighing the hay as it was baled.

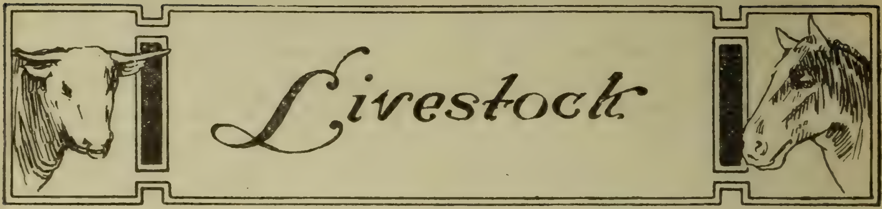
The volume of a rick is equal to its length multiplied by its cross section. The length is easily measured, but the area of the cross section is not so easily determined, because the top of the rick is not always perfectly flat and the sides are not straight up and down. It is difficult to measure the height of a rick. It is much easier to measure the "over," which is the distance from the ground on one side of the rick over the top to the ground on the other side.

The above mentioned investigators found that the cross section of a rick is the product of the over and the width multiplied by 0.31. Representing this fraction by F, the over by O, the width by W, and the length of the rick by L, the volume being represented by V, we have the following formulae for determining the number of cubic feet in a rick: V=FOWL. The fact that this formulae spells the word "fowl" makes it easy to remember. The formulae would therefore be used in this manner: Suppose a rick is 16 feet wide, 24 feet long and the over is 31.2 feet and the fraction remains constant 0.31; the solution would be V=F x O x W x L or V=0.31 x 31.2 x 16 x 24=3714.04 cubic feet.

After finding the cubic feet in the rick the work is but little over half done, for there yet remains the problem of determining the number of cubic feet in a ton, since hay is usualy sold by the ton and not by the cubic foot. As has been previously said, the volume of a ton of hay depends upon several factors, but in order that we might arrive at a safe esimate, a large number of ricks were measured and the following figures secured. Stacks that had been standing less than thirty days contained, on the average, 589.6 cubic feet per ton; stacks that had stood 30 to 60 days, 581.5 cubic feet; and stacks that had stood 74 to 155 days, 514.9 cubic feet per ton.

So far as known, New Mexico is the only state that has a law governing the masuring of hay in ricks, and it is doubtful whether it is in effect now. At any rate, experiments have shown it to be unsatisfactory as it gives results 30 per cent. too low, on the average. According to this law the number of cubic feet in a rick is determined thus: Multiply the width by the over; divide the product by four; and multiply the quotient by the length. The number of cubic feet in a ton in the New Mexico law are; 512 cubic feet for the first 20 days, 422 from twenty to sixty days, and 380 thereafter.

**Rupert L. Stewart,**
Station Agronomist.



# Livestock

## THE 1918 POULTRY CROP

The Vital period for the new poultry crop will come in the next four months. Every person who has ever produced poultry in any degree fully understands the value of poultry flesh as a human food, not alone for the nutritive value but also the economic.

At this time poultry meat is one of the cheapest meats available for human food. Besides being comparatively inexpensive to buy it it is more inexpensive to produce and also the one class of meat which can be produced on every farm and upon many city back lots.

Well knowing the value of poultry, every person who has the facilities should raise chicks this year. Those who raised chicks last year should double the number this year. The more meat or other food each person produces for their own use the less will be the food shortage and the less will be the cost of living.

To those persons who are chicken raisers or who propose to be this year, let preparedness and efficiency be considered now. February should see the first chicks and the first of May the last ones. Make a careful selection of the best hens for breeders now and begin hatching eggs as soon as possible. Use kind consideration with the setting hen, give her a secluded place for the nest, protect her from the other hens, dust her well with lice powder when she is put on the nest and four days before the chicks hatch, give her plenty of feed and water during the time she is on the nest.

If an incubator is used that has been used before, see that it is thoroughly cleaned and disinfected. Put new cloths on the diaphrams. Have a new burner and wick for the lamp. Locate it in a place free from drafts but where there is good ventilation and then follow the directions for operation given by the manufacturer of that particular machine. Do not try to operate one sort of machine by instructions applying to another kind.

The big objective at this time is to hatch more chicks than were ever hatched before. To produce and conserve more food for home consumption and while producing more chicks to make them better chicks, all of which can result by a careful application of the above suggestions.

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## FARMERS' WEEK

(continued from page 8)

successful. In such states as Iowa, Kansas and other large grain growing states, tractors have come to stay, and thru courses of this kind in the agricultural colleges the farmers have found how to properly handle the machinery. For young men this course is especially valuable, for, although they may not expect to own a tractor, there will be excellent oportunities in this region for work as operators, and it is a trade that commands a good wage.

Application blanks and further information can be had by addressing

**Dean of Engineering**

# Fruits & Truck

## PLANTS FOR THE HOME

In these days of Hooverism, War administration and selective draft, when our thoughts are so taken up with the rush of things at home and abroad, and the main topics of conversations are the latest war move, the high price of meat, and the government formula for bread, we should not lost sight of the place of flowers in our home life.

There is no place so poor or so humble but it can afford to have some kind of flowers about. And there are many plants of such easy culture than anyone can have a wealth of bloom practically all the time with but little care. There is hardly a house in all New Mexico that is not kept warm enough for growing some kind of plant the blooms of which will do much to make life about as much more cheerful, and almost any of them will also do for the raising of ferns or other foliage plants which add so much to the attractiveness of the home place.

Did you ever see a sweet potato growing in a jar of water? It makes one of the finest plants for growing around the window that one could imagine. It does not bloom, but the foliage is always fresh and green and the vines will often grow so long that they can be twined all about the window. It ordinarily takes but a little while for the vines to get long enough to make a pretty hanging drapery.

And a common chili plant. Who ever grew one of them inside the house? Yet they will do well when taken care of and in sections where the chili wil do well outside they can be kept for a long time, even sometimes as long as three years, and will prove quite attractive with their green and red pods, which, by the way, will be good to cook with when they are ripe. If started outside in the summer time and then moved inside before the first frost, one can have nice fresh chili for Christmas. The plants should have a heavy soil and should not be kept too wet. The temperature at night should not get much lower than forty-five degrees Fahrenheit, but an occasional drop of a few degrees lower will not hurt it.

The Crown of Thorns which grows wild in many parts of the State makes an odd and attractive plant for the window with its terrible thorns, its small green leaves and the peculiar blood red flowers. A search of the mesa lands will usually reveal a small plant or two which will do well and bloom nicely in the house if taken up early in the fall, planted in a rather sandy soil and not kept too wet, tho they will stand considerably more water than they get on the mesa.

Among the geraniums there are found all shades of color and a great variety of leaves. One can get anything, from the purest white to the deepest red, and either single or double flowers. Then there are Ivy leaved Geraniums, which will trail and hang down from the pot or basket, and which have pink, or light red or dark red flowers, depending on the varieties, there are the rose leaved Geraniums and varieties, the leaves of which smell, not like the rose but like lemon, and these kinds are fine to have around when making jelly so that a leaf may be dropped into the jelly, giving it a delicious aroma. There are the Marha Washington geraniums which are, as a rule, a little more difficult to grow than the common geraniums, but which are worth all the extra trouble, and which can be obtained in a bewildering assortment of colors; and all the geraniums will do well in a soil made of adobe, sand and some well rotted manure, about three parts adobe, two parts sand or sandy soil, and one part manure. Do not water them too often.

Some of these plants one would have to get from a florist, but the most of them can be gotten from some friend or from the free and open land about us. In either case, the returns both in beauty and in the new interest added to the home will much more than repay the trouble, if it can be called trouble, of caring for them and the expense of getting them.

**J. M. Franklin.**

## WHY WE SHOULD RAISE MORE HOGS

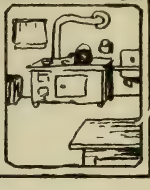
In a recent report from the United States Department of Agriculture it is estimated that there is approximately thirteen per cent. less hogs in the United States this season than in 1916, but regardless of this, we are exporting excessive amounts of pork and pork products. In normal times we furnish the world three-fourths of the exports of pork and pork products, and because of the meat shortage in most of the foreign countries we are to be called upon to greatly increase this proportion. As an example, we exported during the first six months of 1917, 43,000,000 pounds more pork and pork products than in a like period last year.

Fats and oils and meat products are seriously needed by the Allies in the world war, and since hogs furnish meat and fat more cheaply than any other class of farm animals, our production should be increased materially if the United States is to do her part in the conflict.

More pork is handled by the packers than all other classes of meat combined, and since pork and its products are very adaptable for storage and transportation purposes, we can readily see the necessity of keeping up even a normal supply. But this is not sufficint. We need an increase of at least fifteen per cent over last year to meet the immediat needs of ourselves aid the Allies.

Since the beginning of the war the number of swine in most of the belligerent countries has decreased rapidly. The number in France decreased 38.12 per cent. during the three year period ending December 1, 1916. On December 1, 1915 it was reported that the German supply was 31.47 per cent below normal; and while these conditions may be partly re-adjusted by the different warring nations, it is pretty safe to assume that the United States must not only keep her own supply up to the standard but must of necessity re-stock the world after the war. It therefore appears that meat prices must necessarily be high for several years to come; and even though the American farmer is not making the profits he feels he justly deserves, a patriotic motive alone should impell him to do his part to win the war.

# The Home Department



## CLUB PROGRAM

### Start the New Year Right

January

> “Ring out the eold, ring in the new”
> —Tennyson.

Song, sung in chorus, “Work for the Night is Coming.”

Roll Call: Answered by each member stating as a New Year’s resolution what labor-saving device she will install, during the coming year, in her home.

Reading: “The Calf Path,” by Sam Walter Foss.

Talk by a Member: “How our Agricultural College Will Help Us Learn the Methods of the “New Homemaking” and the Efficient Use of the “New Leisure.”

Discussion: Why we should install Labor -Saving Devices.

Song: “Home Sweet Home.”

Social Hour.

### Refreshments

Cocoa or Chocolate.

Marble Sandwiches.

For each sandwich cut two thin slices of brown bread and one of white bread. Spread with butter and place the white slice between the two brown slices. The crust may be removed and the sandwiches cut in triangles, but in this case the crusts must not be wasted. Dry them in the oven, then grind them through the meat chopper or roll fine with a rolling pin and use in hot cakes, croquettes, puddings, ettc.

## TABLE SERVICE

(continued from last month)

Soup may be omitted.

The salad may be put on the table with the meat course at the beginning of the meal.

Serve a desert that may be allowed to stand on the lower shelf of the tea-wagon until wanted. Place the coffee cups also on the tea-wagon and wheel this to the right of the hostess before the meal is called.

At the close of the meat course, the hostess, with a very few trips to the kitchen can remove meat platter and vegetable dishes, returning with coffee, which she may place on the tea-wagon. When she is seated the guests should pass their plates to her and she may place these on the lower tray of the tea-wagon after placing the desert plates on the dining table.

She may then serve the desert and the coffee. The guests assist the hostess in serving by passing the plates and cups to one another and by helping themselves to bread, relishes, cake, etc.

After the meal, by using the tea-wagon, the hostess may clear the table in one or two trips.

II. General Rules

1. Remove individual dishes, such as dinner plates, from the right side.
2. Both place and remove the salad plate and the bread and butter plate from the left, because the waitress should never reach in front of anyone.

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(concluded next month)

## January 14-19, 1918

# *Farmers' Week*

and

# *Homemakers' Conference*

at the

## *State Agricultural College*

Specialists in practically every line of agriculture will be on hand to give lectures and answer questions. If you want reliable information, progressive ideas, money-making and money-saving suggestions, if you want to be a better farmer or a better homemaker.

# COME

Reduced rates on the railroads· Rooms reserved on request.

No charge is made for attendance

Write for Program

## *Extension Service*

State College, New Mex.

(Don't forget the Neighbors.)

**The annual conference of County Agents and Home Demonstration Agents will be held January 7 to 12, inclusive.**

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# THE NEW MEXICO FARM COURIER

VOL. VI. FEBRUARY, 1918 No. 3

COLLEGE DAIRY HERD

Published Monthly by the
Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M.

In Cooperation with the U. S. Department of Agriculture

# The New Mexico Farm Courier

Published Monthly by the New Mexico College of Agriculture and Mechanic Arts and sent free of charge to residents of New Mexico on application.

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AUSTIN D. CRILE.. President of College
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY....Director of Extension

### Extension Staff

A. C. COOLEY..................Director
W. L. ELSER, County Agent Leader and Farm Management Demonstrator.
ROLAND HARWELL, Ass't Emergency Demonstration Leader.
J. W. KNOOR, Assistant Emergency Demonstration Leader.
MISS TURA A. HAWK, State Home Demonstration Leader.
W. T. CONWAY, State Agent Boys' and Girls' Club Work.
ELIZABETH C. KOGER, Ass't State Agent in Club Work.
GERTRUDE ESPINOSA, Ass't in Club Work.
JOHN E. WATT, State Agent in Dairying, U. S. D. A.
DR. E. P. JOHNSON, Extension Veterinarian.

MAY M. HAWLEY, Executive Secretary.
JESSIE HORNIDY..........Stenographer
RUTH S. BRONSON........Stenographer
IDA GRUMBLES .........Stenographer

### County Agricultural Agents

ORREN BEATY, Clayton, Union County
H. H. BROOK, Las Cruces, Dona Ana County.
W. M. ELLISON, Jr., Silver City, Grant County.
M. R. GONZALEZ, East Las Vegas, San Miguel County.
J. G. HAMILTON, Los Lunas, Valencia County.
D. F. LAUBMAN, Santa Rosa, Guadalupe County.
V. L. MARTINEAU, Raton, Colfax County
H. S. MOLES, Aztec, San Juan County
E. PETERSON, Clovis, Curry County
H. P. POWERS, Socorro, Socorro County
F. E. QUINTERO, Taos, Taos County
J. M. RAMIREZ, Santa Fe, Santa Fe County
R. L. STRONG, Estancia, Torrance County.
EARL J. WILSON, Hillsboro, Sierra County.
E. M. YATES, Tucamcari, Quay County.
LESLIE P. BRIGGS, Fort Sumner, De Baca County.
RICHARD FULLER, Roswell, Chaves County.
A. Z. SMITH, Carlsbad, Eddy ounty.
STUART STIRLING, Carrizozo, Lincoln County.
E. HOLLINGER, Ass't, Clayton, Union County.

### Home Demonstration Agents

BERTHA BECKER, Albuquerque, Bernalillo County.
WILMA D. EVANS, Raton, Colfax County.
MRS. CARRIE P. PHELPS, Silver City, Grant County.
MRS. J. T. STALKER, Clovis, Curry County.
LUCILLE WOODARD, Roswell, Chaves County.

## EDITORIALS

### COUNTY AGENTS

(by President Crile)

The County Agriculturist is, in a certain sense, a public officer, in that he is supported in his work by the Federal Department of Agriculture, by the State, and by the County, from funds received by taxation. When our country sent out its call for men to put on its uniform and go to the front, many of our County Agents were very anxious to leave at once and join the colors. We prevailed on them, somewhat, to stay by the furrow and help to increase our Nation's food supply; and in many cases this was done, believing that their positions afforded them an opportunity to increase foodstuffs to a much greater value than they might do as individuals in the trenches. Just recently the Secretary of War has issued an order authorizing all exemption boards—local and district—to place regularly accredited County Agents in Class 3, letter I; which means that they are to be held, by the judgment of the War Secretary, to produce food, in order that we might win the war; so that the County Agent who is in the furrow, instead of the trench, is there by direct orders of the Secretary of War.

## YUCCA AND SOTOL

A preliminary report of our experiment on the feeding of yucca and sotol to range cattle is made in this issue of the "Courier." We feel that this is a very important experiment, and are quite well pleased with what has happened, so far, in the work. We should be glad to have anyone interested in the feeding of either yucca or sotol, write for further and detailed information.

In addition to the cattle now on this feed, we expect to put in two small bunches, one in a dry lot with nothing but the yucca, and another in a dry lot with yucca and a little cottonseed meal. This experiment will not start, however, for a few weeks.

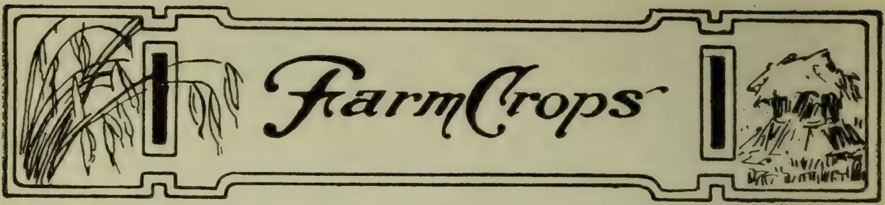
## 1918

Nineteen hundred and eighteen is already passing. One of the twelve milestones is behind us. The time is here now to plan on something to plant; something to produce food for man and beast. Remember that this year we are raising food to preserve human life. The making of money has become a secondary matter in the whole food question, and the matter of first importance is, saving human life and winning this War. Lloyd George has coined the one great sentence to follow now: "Go on or go under." Don't stop to consider this or that minor detail. Plant everything that you have reason to expect will mature, everywhere you can, and grow all you can. Prevent every animal from dying that you possibly can; raise all the hogs you can; and just remember that unless we all do our best, some mother's boy, dressed in the uniform of our country, may go hungry; that somebody's little child among the mothers of our Allies is going to die of starvation. There is just one clear, plain duty now: produce food; conserve wheat, meat, fat and sugar.

## INQUIRE

In the latter part of last year, and so far in the beginning of this year, we are very much pleased to have many more inquiries reach the College, on all sorts and kinds of questions that may be perplexing the citizens of the State.

I want to say that the College is here to answer every question on which they have any knowledge, and if you are willing to take time to write the problem and put a 3-cent stamp on it, we will be very glad to do the best we can to give you the information, or to write you a letter and spend another 3-cent stamp, simply to say that we do not know. However, through our various departments of Agricultural Engineering, Live Stock, Dairying, Poultry, Farm Crops, Chemistry, Horticulture, Irrigation and Drainage, Biology, and Experiment Station work—in someone of these departments we can find some fairly reliable information on almost any problem that may arise in our State; and in 1918 I want doubly to welcome every one in the State who has a problem to inquire of us. Remember that we are not promising complete answers, but we do promise, the best we can, to give you the information; or when we do not know it frankly to say that we do not know.



# Farm Crops

## SPRING GRAIN

We are being constantly reminded by those who are in a position to know, that more wheat must be produced in this country, so that more can be shipped to our soldiers in France and to our Allies,, if we are to keep them from starving.

Most of the other cereal products are hard to ship and so cannot be sent across the ocean, but these can be used by us as substitutes, and in this way wheat can be released for shipment across the sea. Therefore, the production of all small grains becomes a vital question, and one that is squarely up to us as farmers

Fortunately, New Mexico is well adapted to grain production. There are but few sections of this state where grain does not grow well, and, although New Mexico cannot be classed as a wheat growing state, along with Kansas, Minnesota, North and South Dakota, it has been estimated that there were about two and one-half million bushels of wheat produced in New Mexico the past year. This isn't a bad showing. But we want to double it this year. Already a large acreage of winter wheat has been seeded, the largest ever sown in the State.

It will soon be time to plant spring grain, and every effort should be made to get this planted at the proper time and in the proper way, so that our yields will be high.

The climatic conditions in this State are so varied that no rule can be given which will fit all sections, but there are certain fundamental principles that apply to all regions. All grain crops do best when a firm seed-bed, with a fine, mellow surface, to a depth of 2 or 3 inches, is made. Fall plowed land for spring grain is usually best, but in all events, the plowing should be done sometime before planting, in order to give the soil time to settle and become firm. Freshly plowed land can be firmed by running a disk over the land, with the discs set straight.

One point that affects yields more than all others is the seed. The use of good seed pays. Grading the seed with a fanning mill will do more to maintain yields than the introduction of new seed. Only plump, well-filled grain should be used. Don't plant mixtures, as they ripen unevenly Treat all seed for smut. Smut is the most common disease of wheat and oats in New Mexico, and can be easily controlled.

Blow out with a fanning mill, or some other means, (floating them in water and skimming off is a good substitute for a fanning mill), as many smut balls as possible; then mix 1 pint (16 oz.) of 40 per cent. formaldehyde with 45 gallons of water Put this solution in a barrel or tank, and immerse a sack containing about one-half bushel of grain and allow to soak 10 minutes. Then allow to drain and spread out to dry. Wash the drill out with solution, and don't put the treated grain in the sacks that held the untreated grain, unless they have been wet with the solution.

Don't plant too much seed per acre in the dry-farming districts. There is a tendency in the regions of limited moisture to seed too heavily. Thirty-five to 50 pounds of wheat per acre are usually sufficient in the major portions of the dry farming sections. Seventy to ninety pounds per acre usually bring best results under irrigation.

The rate of seeding will, of course, depend upon several things, such as the condition of the seed bed, fertility of the soil, moisture available, and time and method of seeding.

The time to plant spring grain will, of course, vary with the locality and climatic conditions, but early plantings are usually best. It is always best to get the grain planted so that it will have time to grow and mature before the hot weather sets in.

In a large part of the wheat growing sections of New Mexico, the month of February is well suited for the planting of spring grain, but in the higher and colder sections the time of planting will have to be somewhat later than this.

Always use a grain drill in planting the small grains. The drill insures a uniform depth of covering, and therefore a more uniform stand. This implement requires less seed per acre, and in the dry farming sections the drill furrows catch the snow and rain and hold the moisture for the benefit of the cereal plants.

In the irrigated sections be careful not to irrigate too often, but do not keep the water off too long at the critical periods. The two critical periods are from the time the wheat is planted until it covers the ground, and at the fruiting stage. Wheat that is suffering from a lack of water usually is of a darker color than wheat that is growing properly.

**Rupert L. Stewart,**
Station Agronomist.

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## A BEAN DISEASE, NEW IN NEW MEXICO

Recent reports show that Bean Anthracnose is the most serious enemy of the bean crop in the states east of a line drawn from North Dakota to Texas. Only three western states have reported this disease—Oregon, Colorado and New Mexico.

Anthracnose of Bean was not known to the bean growers of New Mexico until a year or two ago, when it was introduced into some of the northeastern counties of our State from Colorado, in all probability. If we want to keep our bean fields free from this disease we will have to stop its spread at once. We cannot afford to lose a pound of beans from our 1918 bean crop on account of this disease, for we will use all of the 71,265,739 lbs. harvested last year from New Mexico fields, and will need more this year for our nation and for our soldiers "somewhere in France."

Bean Anthracnose is a disease caused by a microscopic plant, a fungus, which attacks the pods, stems, seeds and roots.

On the pods, the spots are the ones most frequently noticed by the bean growers. The spots show first as very small dark colored places on the pods but they increase in size very rapidly, sometimes becoming from a quarter to one-half inch in diameter. The fully developed spot is considerably sunken, nearly black in color in the center, and generally surrounded by a reddish zone.

(continued on page 16)

# *Poultry*

R. B. THOMPSON, **Poultryman**

## PRODUCE TURKEYS THIS YEAR

Last season was a sad mistake for many turkey producers. Many farmers have no intentions now of producing turkeys this season. However, there should not be a turkey egg produced this year that is not incubated. Listen! A report just sent out from the Department of Agriculture shows that there was last year 58.6 per cent. less, or more than one-half less turkeys in storage as there was the year before. Don't discourage, but encourage, turkey production this year. New Mexico should easily increase her turkey output tenfold.

## SELECT EGGS FOR HATCHING

A careful selection of the eggs used for incubation purposes is one important thing often neglected by those people raising only a few chicks each year. The two methods in most common practice is to allow the hen to steal her nest where she pleases and to gather at random, from the eggs on hand, enough to set the number of broody hens available. Each of these methods should be abandoned.

After a careful selection of hens to make a breeding pen, the culling of the eggs they produce comes in importance. It is nothing short of wanton waste to incubate those eggs which do not have the size, shape or shell structure to properly produce a large, vigorous chick.

First consider the symmetry of the eggs. The standard hen's egg measures about 2.25 inches long and 1.7 inches in diameter and weighs two ounces. All eggs of abnormal proportions should go for table use or to market. Forget that old superstition about short, round eggs producing pullets and long, slender ones producing cockerels. It is all bosh. Rather than follow superstition, use a liberal application of common sense and from the two ounce eggs or slightly larger ones of average proportion, select those eggs with smooth shells, with shells that are strong and not abnormally porus, with shells that have no creases or ridges, and with shells that are uniform in color.

Remember, in selecting for color that breeds of the Amercan, English and Asiatic classes produce only brown shelled eggs and under no condition will they produce white shelled eggs. If white shells are desired it will be necessary to raise Leghorns or some other of the egg type breeds. In selecting the brown eggs, the deep, rich brown is preferable to the light tints.

Keep the selected eggs in a careful way so that the best hatches possible may be obtained from them. Eggs held for incubation should not be exposed to a temperature lower than 50 degrees nor higher than 65 degrees. It should become a practice to turn eggs held for incubation every day and not to hold them longer than ten days, and only that long under ideal conditions.

## USE AN INCUBATOR

Eight years ago when the last census was taken there were 1,527,743 farms in the United States producing neither egg nor poultry. The average number of hens on each farm was only forty. These, then, are two conditions existing, which, had the United States never declared war on Germany, it would have been neccssary o remedy.

Poultry flesh is the one meat which can be produced on every farm economically and in economical quantities. There is no argument acceptable for every farm not producing enough poultry meat and eggs for home consumption. The imperative need for more food during the winter of 1918-19 demands an increase in the number of poultry on the farms. The average of hens on farms should be 100 and not 40. To attain this average each farm flock will need to be doubled.

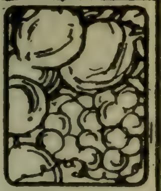
The time is at hand when it is not that all things are done for the peccuniary profit therein, but from an honorable feeling of pride each person should have in assisting those men directing the destinies of this United States by producing as much as possible of the food used at home, even though it may take a little self sacrifice of time and labor. Patriotism, if nothing else, should direct every person who is producing any poultry to double their production of last year.

The use of an incubator on the farm is therefore encouraged. By using an incubator two or three hatches will produce all the chicks desired It will make possible the production of a uniform flock by giving a number of pullets of the same age. The matter of making it possible to hatch chicks earlier is of vast importance. It is the early hatched pullet that produces winter eggs. A 150-egg size incubator wil hatch as many eggs in ten weeks as 45 hens. By using an incubator, then, these 45 hens will still be producers and furnish at least 100 dozens of eggs, or more than enough eggs to pay the cost of the incubator and brooder. The incubator and brooder are still on hand and the eggs may be preserved for winter food. Nothing lost, everything gained. Arguments of financial and other natures can be advanced readily for the use of the incubator on the farm.

There are a few things to consider when purchasing an incubator. Do not buy a second-hand incubator unless it is from some person who cannot possibly use it, and then only on condition that it be used for one hatch to try it out. Buy a good incubator, not one of those cardboard and tin affairs so prominently advertised at from seven to twelve dollars for an incubator and brooder combined. A 150-egg incubator costing $18 or over will out-last many of the $7 sort and give better satisfaction. When an incubator is purchased, operate it according to the instruction book with it till you master the matter of artificial incubation. Under no condition should the operating instructions of one sort of an incubator be applied to another.

In this great struggle for democracy, the hen will do her part in whipping "Kaiser Bill" if given the opportunity.

# Fruits & Truck



## GREATER EFFICIENCY IN WAR GARDENING

The War Garden has come to be quite an important patch, both on the farm or in our back yards.

Care should be taken, however, in the growing of the War Garden, to reduce the loss as much as possible that may come from the planting of the wrong kind of vegetables, planting too many varieties, or too much of the more perishable ones, and planting at the wrong time of the season.

Do not plant every imaginable vegetable that you may think of. Reduce the variety to those which will grow the best under local conditions and that can be used to the greatest advanage. Also do not plant at one time too many of the more perishable vegetables, such as radishes, lettuce, spinach and parsley. If these are not used up at the right time they become too old and pithy, and there will be a waste. It is better to plant them at different dates.

The cold climate vegetables can stand considerable cool weather. Many of them can stand some frost without injury. Now is the time to begin planting some of these cool climate vegetables. In the southern and warmer valleys, for example in the lower Rio Grande and Pecos valleys, the onions, radishes, lettuce, beets, carrots, turnips, spinach and garden peas can be planted during February, March and early April. By planting them early we can get them ready for use early in the summer. Early cabbage and cauliflower can be transplanted to the field in March and April. The seed, however, should now be started in hot beds or cold frames.

In the central districts the date of planting these hardy vegetables will be a little later than in the southern sections, usually from April to May 15, while in the northern and higher altitude districts the date of planting is considerably later, varying from about April 15 to May 20. Of course there will be a few localities where these vegetables might be planted a little earlier or perhaps a little later. It depends upon the peculiar local conditions.

In the growing of these hardy vegetables, increase the amount of those which can be used to better advantage and reduce those which are more perishable. For example, the garden peas, if not all used green, can be canned and even dried. The beets, carrots, turnips, and onions are not so perishable as the radishes, spinach and lettuce. In this list, then, the peas, beets, onions, carrots, and turnips could stand a larger planting.

In the case of the cabbage and cauliflower there should be more of the former than of the latter planted.

The Alaska, American Wonder and Telephone are three good varieties of garden peas, which mature in the order named; and ½ a pint of seed will plant a row from 75 to 100 feet long.

The White Bermuda, Brown Australian and Denia onions are very popular in the southern districts, while the Yellow Danvers and Red Weathersfield are used extensively in the northern and higher altitudes. About ½ ounce of seed should be enough for a row 75 to 100 feet long.

The Egyptian and Early Blood are good table beets; and an ounce of seed should be enough for a row about 40 to 50 feet long.

An ounce of seed of the Prickley Winter, A-M Improved and Thickleaved Round Summer spinach should plant a row from 75 to 100 feet long.

One-fourth of an ounce of seed of the Early Scarlet Turnip, Early White Turnip of Early Long Scarlet radishes will plant a row from 20 to 25 feet long.

The Early Curled Simpson is one of the best lose leaf varieties of lettuce, while the Los Angeles Market, Iceburg and California Cream Butter are some of the leading head varieties. ½ ounce of seed should be enough for a row 75 to 100 feet long.

The Early Scarlet Horn, Ox Heart and Chantenay are three good varieties of carrots; and 1 ounce of seed will be enough for a row 75 to 100 feet long.

The Early White Globe and Purple Top Globe are two good varieties of turnips; and ½ ounce of seed w plant a row 75 to 100 feet long.

The cabbage and cauliflower are usually transplanted from plants grown either in cold frames or hot beds. About 400 seed of either may be planted to each 6 foot row in the cold frame or hot bed, from which at least 200 good plants should be obtained for transplanting. The early and small-growing cabbage, such as the Winningstadt, Copenhagen and Jersey Wakefield, may be planted in the southern and warmer districts at 18 inches in the row by 2 or 2½ feet between the rows. The later and larger growing varieties, such as the Flat Dutch, may be planted 2 feet in the row by 3 or 3½ feet between the rows. The Erfurt and Snowball are two of the earlier and smaller growing varieties of cauliflower; and the plants may be transplanted in the row 2 feet apart and 3 feet between the rows.

In the growing of any vegetable keep in mind that a good fertile soil required, as well as a sufficient amount of moisture. Therefore it may not be advisable to try to grow any of these vegetables under strictly dry farming conditions; although if there is a windmill handy some of them can be grown to advantage.

The warm climate vegetables will be discussed in the next issue of the "Courier."

**Fabian Garcia.**

## FORCING TOMATOES AND OTHER CROPS

The high prices paid for the very first of any vegetable crop placed on the market show clearly that such foods are greatly desirable and necessary. But the high prices for all of them is not necessary.

In the southern part of the state cold frames give splendid results, in the colder regions the hot beds will prove to be much better on the whole than the cold frames, and the little flats can be used in any locality where the houses are warm enough to keep the night temperatures sufficiently high. For a small family the window box or flat is all that is necessary, and it can be cared for better than the cold frame. The early tomato s should be planted not later than the middle of February, in the southern part of the State, and at least four weeks earlier in the northern portion than the average date of the last killing frost. Counting the time for hardening off, and the time for the seed to come up, the plants can be kept in the cold frame or window box six weeks. This is where the temperature is high enough for rapid growth, and when it is cooler the plants will need more time in order to be large and stocky. Unless the plants are large, stocky and have a good root system, time will be lost rather than gained over seeding in the field. Small, weak plants are often killed by the cold spring winds, or so chilled and set back that they will not make good yields.

Radishes may be grown in cold frames for table use, and even for the market. Last fall some radishes were sown in the cold frames and were ready for use in six or eight weeks, some of them being nice size Christmas.

**Fabian Garcia.**

## SOAPWEED FOR CATTLE

The Agricultural College is conducting an experiment to determine the value of soapweed and sotol heads as feeds for maintaining range cows through periods like the present, when feed on the range is very scarce. For this experiment twenty-five thin range cows were selected, ranging from two to four years old. Five of them with young calves by their sides were placed in one lot to be fed alike. The other twenty were divided into four equal lots, and are being fed as follows:

Lot One is given 125 pounds of sotol heads daily.

Lot Two is fed the same quantity of sotol heads, and has in addition ten pounds of cottonseed meal.

Lot Three receives 125 pounds of soapweed daily, and

Lot Four the same amount, but has in addition ten pounds of cottonseed meal.

Lot Five is fed exactly the same as lot Four, but in addition the calves receive one-half pound of cottonseed meal per head daily, and all the soapweed they will eat.

The sotol heads are prepared for eating by being split up with an ax and then run through an ensilage cutter. In preparing the soapweed the dry leaves are burned off the stem as it stands on the mesa. It is then cut off at the ground, the stem furnishing the feed. If the stems are to be run through an ensilage cutter, it is necessary to split them into quarters, or even finer, then the cutter will make them fine enough so that the cows can eat them readily. A machine has recently been manufactured by Krakauer, Zork and Moye, of El Paso, which slices the whole stem, and thus greatly reduces the expense of preparation. The tendency of this machine to pulp the slices puts it into fine condition for feeding, but so far only one machine of this kind has been sent out, and that is in daily use on the range slicing the soapweed stems for cattle. The green leaves at the top of the stem are but little eaten, because neither one of the machines used has cut them up fine enough. In feeding the cottonseed meal the sotol, or soapweed, is first placed in the bottom of the trough, and then the allowance of meal is sprinkled over it. In the beginning it was found that this assisted in having most of the soapweed or sotol heads eaten up, but after a short time the cows that did not have cottonseed meal ate the feed up as promptly as the others.

The experiment has now been running for six weeks, and the cows and calves have held their weight, and most of them have gained little.

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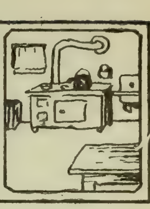
# The Home Department



## HOME ECONOMICS CLUB PROGRAM

### February

Caesar was too ambitious, but that probably isn't what is the matter with you.

Song -------------- "America"
Roll Call, answer by each member stating briefly her own definition of Patriotism.
Business Meeting.

### Program

Reading, "The Whistling Mother" by Grace Richmond.
Talk, "What Patriotism Means in This Community."
Discussion, "Why I Should Be Loyal to My Neighbors and My Nation"
Song, "The Battle Hymn of the Republic."
Social Hour.
Refreshments—
Liberty Bread Sandwiches, with hot Chocolate.

## DID YOU MISS IT?

Somebody missed attending Farmers' and Homemakers' Week at their own State College. They couldn't help it. The roads were bad and storms made it impossible for them to leave home. To the people who did attend was presented a strong program for Farm and Home efficiency.

The Homemakers were especially fortunate in having on their program Mrs. Antoinette Funk, Vice Chairman of the Woman's Liberty Loan Committee; Mrs. W. A. Warner, State Chairman of Rural Work, Texas Federation of Women's Clubs; and Miss Margaret H. Haggart, Professor of Home Economics, Kansas Agricultural College. These women all came with an inspirational message for women. Never before in the history of the State have five capable women demonstrators appeared on the Farmers' and Homemakers' program. This fact alone shows that the homemakers of New Mexico are making use of their opportunities, and the prospects for a Home Demonstration Agent in every county where there is a County Agent is promising. The Family type of Farm Bureau organization will bring the farm and home closer together in a business way than they have ever been before. The practical as well as scientific men and women who are filling the positions of County Agent and County Demonstrators are doing much to help people to help themselves. It is gratifying to all concerned to know that both of these movements have come directly from an expressed desire of the farm people for such assistance, and that in not one instance where the work has been once begun has there ever been a thought of discontinuing it.

Farmers' and Homemakers' Week was a success. If a single reader of the "Courier" was unable to attend this year, that reader will no doubt make plans to attend next year. The week is set apart by your College for you. A big Farmers' Week will help

(continued on last page)

## SOAPWEED FOR CATTLE

(continued from page 10)

Two additional calves have come in one of the lots, and it is expected that all of the cows will bring calves by the time the experiment closes or very soon afterwards.

It is the intention to determine the composition and digestibility of both of these feeds before the completion of the experiment.

**Luther Foster,**

## FIELD PEAS FOR NEW MEXICO

Field peas have usually been considered a northern crop, but they succeed well in the Southwest if planted at the proper season. In recent years the San Luis Valley peas of Colorado have attracted much attention because of the very successful growing of field peas in that locality. A report from there shows that there are two principal varieties of peas in general use, viz., the Mexican and the Colorado White. The Mexican is not considered a pure variety, but consists of a large number of native sorts mixed, and it is reported that this variety succeeds better than any other under adverse conditions, but where everything is favorable for full growth and development, the Colorado White is recommended.

In the southern New Mexico climate peas grow most successfuly if planted early in the season, at the latest by February 1st. They make their best growth during the cool weather of early spring, and if ready to blossom by the time warm weather comes on, they will give a larger crop of seed than if planted late. The later plantings, making their principal growth during the warmer weather, give a heavy production of vines and a light crop of seed.

February 2, 1917, a one-acre plat was seeded to the Mexican variety of the San Luis Valley peas at the rate of sixty pounds per acre, a Hoosier seed drill being used for that purpose. This quantity of seed was found sufficient to give a good stand, covering the ground completely. They were planted on a field that had been continuously in alfalfa for eight years and this may to some exent account for the vigorous growth and heavy yield of seed. It should be kept in mind that in growing peas there should be enough water to keep a continuous growth from the time the plants come up until they begin to blossom; then, if they are to be pastured without waiting for the peas to be formed, a good supply of water will keep them growing and blooming instead of forming seed and ripening; but as a rule other crops can be grown for pasture, leaving the field peas to mature and be fed to help finish the pig or lamb for market.

The peas would have made good green pasture for pigs by the middle of April, but they were left to mature before making use of them. About three-fourths of the peas were mature by the middle of June, but it was July 3rd, when a still larger proportion were mature, that forty pigs averaging a little less than sixty pounds per head in weight were turned on to them, where they remained for thirty days, making a gain of 380 pounds without any supplemantary feed. They were not given the full run of the pasture, but a portion was cut off with a hurdle fence, and additional portions were added from time to time as they were needed. The vines made very vigorous growth, indicating that good results might have been obtained by pasturing earlier in their growth

(continued on page 14)

# *Food*

## U. S. FOOD ADMINISTRATION
Washington, D. C.

## FOOD FACTS OF WORLD SCOPE

### Wheat Supply of France

The necessity for utmost saving of wheat in North America is evident from the plight of France. In 1913 her wheat production exceeded 146,000,000 bushels but under stress of war this has rapidly declined each year until the past season only 66,500,000 bushels were produced. She has lost not only some of her wheat growing territory, but the wheat acreage throughout her provinces has also been reduced; labor is exceedingly scarce and seed is difficult to obtain.

Wheat to the French people is the real staff of life. As a nation they eat very little rice, rye, oatmeal or corn; 52 per cent of their entire food supply normally comes from wheat. For the 1918 wheat crop the French government has fixed the price at $3.15 per bushel, compared with $2.63 for the crop of 1917. Only the very poor and men and women doing the hardest of manual labor may have more than seven ounces of war bread a day in France from now on.

### Million Less Sheep in Great Britain

From 1916 to 1917 sheep in the British Isles decreased more than a million head. More than half of this decline was in the class under one year old, showing diminished breeding operations.

### American Appetites Largest

The German sugar ration for 1916-1917 was about one-tenth of the average United States consumption and their meat ration about one-sixth. The French sugar ration is only 1.1 pounds per month as compared with 7.4, the normal consumption of the United States. England uses less fat than France and is about midway betwen France and the United States as regards to meat and sugar.

### Heavy British Hog Slaughter

Hogs have decreased in the British Isles more than any other livestock. Between 1916 and 1917, swine in Ireland decreased 26.4 per cent; in England and Wales 11.5 per cent. and in Scotland 9.5 per cent. Of the total decline, exceeding 600,000, more than 50,000 were breeding sows.

### Germany Maintains Cattle Supply

Since occupying Northern France, Germany has seized about 2,700,000 French and Belgian cattle. By these depredations and increasing restrictive measures at home, Germany has maintained practically her original number of cattle.

### Increased Cattle and Veal Slaughter in the United States

Slaughter of cattle at the principal market centers of the United States reached over 11,500,000 head in 1917 as compared with less than 9,500,000 the previous year, an increase of 21.8 per cent. During the same time the veal slaughter increased from less than 1.725,000 to more than 2,225,000 head, or nearly one-third.

## THE WILL TO SERVE

By Thomas Addison, of the Vigilantes

Not every man may carry a gun,
Else I would be carrying one;
Yet, please God, for the Flag of the Free
I will do my best as it come to me.
And whether with hand, or voice of cheer,
Whether it cost me little or dear,
Whatever the task, may it only be
Within the strength that is given me.
Not every man may carry a gun,
But for those who stay there is work to be done.
God help me find to my hand some deed.
That I may do for my country's need.
If only to yield a spade or a hoe,
To smooth the way of those who go.
For whether we go, or whether we stay
It's the **will to serve** that shall win the day.

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## FIELD PEAS FOR NEW MEXICO

(continued from page 12)

and securing more benefit from the green vine, and not depending so largely on the results from the peas. Judging from this single trial, it is believed, that the San Luis valley peas should have an important place in our farming operations. They can doubtless be seeded either in December or January, and have a good start by the time the growing season of spring begins, when they would rapidly come to maturity and furnish either pasture or grain when other feeds are scarce. The indications are that they can be depended on to mature a large proportion of the peas early in June at just the right time to turn the spring litters of pigs or after weaning. They make excellent feed not only for growing pigs, but also for lambs and other young stock, because of the large per cent of protein they contain, as well as the bone-making material. They enrich the soil in nitrogen, and put it into better mechanical condition for other crops.

**Luther Foster.**

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## TABLE SERVICE

(continued from last month)

3. Use the right hand in placing or removing dishes from the right.

4. Use the left hand in serving from the left.

5. Dishes from which the guest is to help himself, like the bread plate, should be passed at the left—this enables the guest to help himself easliy with his right hand.

6. In passing any dish it should be held low enough and close enough to be convenient for the person served.

7. For small dishes a tray is used in serving. For large dishes a tray may be used or the waitress may use a folded napkin on the palm of her hand. In handling large, heavy dishes, such as the meat platter, the tray and napkin may both be discarded.

8. Glasses may be filled where they stnd or may be taken by the base, drawn to the edge of the table, filled and replaced. [illegible] glass should never be grasped near the edge of the tumbler.

9. Plates of soup are not, as a rule, placed until all are seated.

10. If the first course is not on the table when the meal is announced an extra plate, of dinner size, may be used to make the table look less bare. This plate is called the service plate. The first course is set upon this plate. At the close of the first couse the service plate may be removed with that course, or it may be left until it is replaced by the regular dinner plate.

# Boys' and Girls' Clubs

## A SUMMARY OF CLUB WORK FOR 1917

He has achieved success in Club Work who has gotten into the game and stayed in the game until he has finished his job. Only those who have finished their jobs are here reckoned with.

Colfax County again has taken the lead in the number of members completing, and stands well in the net profit per member. This success is attributed largely to the leadership, including the school people, the voluntary leaders of local clubs and the "paid leaders" for one or more communities. Colfax County had seven paid leaders for Club Work during the summer months—the very time when leadership is most needed. Other counties might profit by this example.

Without naming the Club Projects and giving the number of Club members in each, the following list gives briefly the counties, the number of Club Projects completed, the number of members finishing, the total value of products, the cost of production, and the net profit:

| County: | Projects | Members | Value of Prod. | Cost | Net Profit |
|---|---|---|---|---|---|
| Bernalillo | 4 | 18 | $ 324.56 | $ 209.61 | $ 114.95 |
| Chaves | 6 | 75 | 1730.39 | 704.44 | 1035.95 |
| Colfax | 10 | 236 | 8073.81 | 2205.02 | 5868.79 |
| Curry | 7 | 32 | 889.76 | 340.87 | 548.89 |
| Dona Ana | 7 | 71 | 1992.25 | 886.67 | 1115.58 |
| Eddy | 5 | 24 | 718.30 | 282.21 | 436.29 |
| Guadalupe | 2 | 3 | 25.65 | 13.00 | 12.55 |
| Lincoln | 2 | 2 | 53.25 | 23.17 | 30.08 |
| Luna | 1 | 2 | 43.40 | 16.60 | 20.80 |
| Otero | 1 | 2 | 10.15 | 5.55 | 4.60 |
| Roosevelt | 2 | 6 | 303.75 | 51.05 | 152.70 |
| San Miguel | 3 | 18 | 729.71 | 376.89 | 352.82 |
| Torrance | 7 | 60 | 1121.37 | 304.79 | 726.58 |
| Union | 8 | 74 | 2002.44 | 683.23 | 1319.21 |
| Valencia | 5 | 16 | 252.58 | 118.45 | 134.13 |

It will be seen that Union County is second in the value of Club products and also in net profits. Dona Ana is third in the same points, but had the State Winning Club, which adds much to their achievement. The award for the "Best Club in the State" was a beautiful banner presented by the State Superintendent of Public Instruction, J. H. Wagner.

In some other article we may bring out the best individual member in each Club Project .

W. T. Conway, Formerly, State Club Leader.

## A BEAN DISEASE NEW IN NEW MEXICO

(continued from page 5)

**On the leaves,** the disease appears almost wholly on the vein and petioles, generally on the under side of the leaf. The affected veins become black in color and the larger ones somewhat sunken.

**On the stems,** the spots sometimes develop profusely. On young seedlings the spots are generally below or at the point of attachment of the seed leaves. On older plants, the spots are more scattered over the different parts of the stems. The spots appear quite suddenly on the stems and differ but little from those on the pods.

**On the seed,** the disease appears also in yellowish, brownish or blackish spots. Generally the spots are rusty brown or black. The spots vary in size from a mere speck up to one including the whole side of the bean. As a rule, they are round and surrounded by a reddish zone.

**On the roots,** the disease frequently shows a rotting of the main root. Plants so injured lack a deep root system and are dependant wholly upon the side roots near the surface of the ground.

### How to Control This Disease

1. Get as high-grade, clean, disease free seed as you can from reliable dealers. See that the seed you buy is free from Anthracnose.

2. Do not buy seed relying upon the much abused terms "Northern grown," :"Western," etc, but seek clean, desirable seed.

3. Have the Agricultural Experiment Station at State College, New Mexico, determine for you whether the seed which you are going to plant this spring is free from bean diseases. Send in a sample for that purpose, at least a quarter pint in quantity, marked with the name and address of the sender. An accompanying letter should give the name of the grower and locality where grown, if possible.

4. Practice crop rotation in raising beans.

5. Do not cultivate a bean field while the plants are wet. To do so is to spread disease from one part of the field to another.

6. Practice seed selection next fall **Save the seeds from pods which have no sign of disease for next year's planting,** for this is the only method of controlling Anthracnose of Bean.

**Fred C. Werkenthin,**
Assistant Biologist.

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## DO YOU MISS IT?

(continued from page 11)

to make a big College.

We are expecting you next year and we thank you for your attendance this year. Come again.

**Tura A .Hawk,**
State Home Demonstration Leader

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The illustration on the front cover of the January "Courier" is that of two fine Percheron Mares—both black - recently purchased by the Animal Husbandry Department of the College and now used for teaching purposes by the school. One is three and the other five years old, and they weigh 1790 and 1915 pounds. They are, perhaps, the finest of the kind in the State.

Those who visit the College should not fail to see these fine specimens.

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NOV 24 1918

# THE NEW MEXICO FARM COURIER

VOL. VI. MARCH, 1918 No. 4

GO BACK to the simple life, be contented with simple food, simple pleasures, simple clothes. Work hard, pray hard, play hard. Work, eat, recreate and sleep. Do it all courageously.

*We have a victory to win.*

—HOOVER.

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FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY....Director of Extension

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# EDITORIALS

## FOOD

(By A. D. Crile)

The slogan has been adopted, "Food Will Win the War." New Mexico had the balance of trade in favor of her own living, nearly two dollars to one in her favor, this past year, to say nothing of the wool, hides, and by-products with which she has set out to help win the War.

We are again pleading for every person in New Mexico who possibly can to take the best care of their live stock, to increase their production; for every farmer to plant carefully and cultivate well, in order that we may produce more food; not alone because it may be more profitable; but we are pleading that you raise food in order to save human life and to win this War.

Largely through the instrumentality of the Extension Service and by the help of the Counties, our Pinto bean crop will be marketed. The next year's crop will also receive its market. It is a crop that must be made standard and permanent in our State. Each community of our State ought to know what it is best suited to grow; and when there is any doubt about it, consult the County Agricultural Agents and be advised by them; and if we have any reasonable amount of rain this year, we will surprise the whole United States, and ourselves, by our combined production.

### PORK

The hog growing industry in New Mexico is receiving a very severe temporary backset. Many of the hog raisers are selling out their stock and have made themselves think that they should go out of the hog raising business.

This is a mistake. The fact that for the time being corn is so high that it cannot be profitably put into fattening hogs' should not scare the hog man out of the business. Remember that pork produces meat the quickest of any animal, and that pork is the one great food needed in the winning of the war. Hams, bacon and lard are the things that count, and the things that every soldier relishes and that every soldier should have an abundance of; and I hope that every person in New Mexico who has any advantages at all will at least raise a hog, and should have a sow that will bring a litter of pigs, and next fall fatten them out and sell them. New Mexico is, by its climatic conditions and everything, an ideal hog country; and those who think that they wish to go out of the hog business are making a very serious mistake. You cannot go in and out of the live stock business in a few months; and it should be understood by those who are in the live stock business or general farming that they must use their intelligence, make the best of every opportunity and overcome every obstacle the easist way possible; but they cannot go in and out of business at random.

I hope the boys of the State will go into the Pig Club business three times stronger this year than last, and that the farmers will wake up to the fact that we cannot get along without the hog, and that it may be returned in abundant numbers.

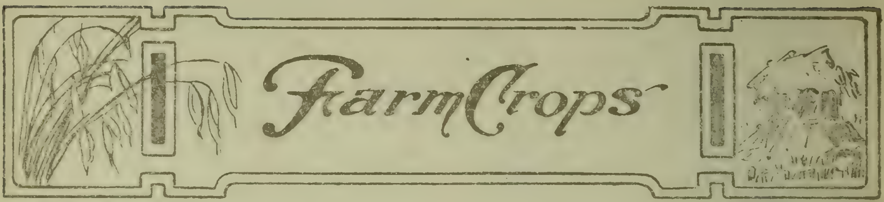
### LICE ON HENS

A hen infested with lice will not do her best, not of her own accord but simply from the neglect of the owner in not eradicating and then keeping down this most troublsome pest that infests all pens in which poultry is kept. Especially should the breeding hens be free from lice.

One of the best lice powders is sodium floride. This is not readily obtainable at all drug stores but druggists should be encouraged to carry it. At first appearance it seems high in price but a bottle of it goes a long ways. Use as any other lice powder, only not so much of it.

A good dust bath will ordinarily be all the treatment necessary for lice on mature fowls. Many good commercial lice powders can be purchased. A good one may be made as follows: Take three (3) parts of gasoline and one (1) part of crude carbolic acid or Lysol or of Cresol. Mix these together and add gradually while stirring, enough plaster of paris to take up all of the moisture. As a general rule it will take about six (6) parts of plaster of paris to one part of the liquid. The exact amount, however, must be determined by the condition of the powder in each case.

(continued on page 15)



## DEFINITION OF A FARM BUREAU

A Farm Bureau is a voluntary association of people interested in the rural activities for the promotion of their mutual self-improvement and education in all matters relating to agriculture and home life, and for co-operation with public institutions—State and National—to this end.

The family is our unit of attack in all extension work.

## GOOD SEED SCARCE

Although large crops of corn, grain sorghums and the sorgo, or cane sorghums were produced last year, the heavy frosts of September and freezes in October resulted in much immature grain, which means nothing less than a shortage of well-matured seed for this season. In view of this fact the farmer should protect himself by securing his seed early. Last year there was a good supply of seed on hand, but many will remember the difficulty that was experienced in some instances in securing this seed when it was needed. With the experience of last year clearly in mind, and the warning that has been sounded in the frost-stricken and drouth-stricken areas, it behooves the farmers of this State to secure their seed **now.** Although the whole of New Mexico did not suffer from either frost or drouth, the areas that matured seed will be called upon to furnish seed to the less fortunate districts. Suitable seed is now available that will be used for other purposes than seed before planting time, unless each grower now secures and safeguards his planting needs.. Do not depend on the other fellow, but secure your seed now.

**Rupert L. Stewart,**
Station Agronomist.

## TEST YOUR SEED

"Had I discovered the lack of vitality in the parsnip seeds planted in the spring of 1910, I would not have been out of a crop that should have paid $50.00 to $60.00. All I got back from that planting was radishes from the radish seed planted with the parsnips to mark the rows." These are the exact words of a successful vegetable gardener, who had learned through costly experience that it pays to test all seed before planting. Planting seed that wont germinate is not only a waste of time and labor, but a waste of land as well.

Testing seed for germinating power is a simple, inexpensive operation—one that can be done by a ten-year-old boy, and yet it may spell success or failure. In this national crisis when so much depends upon the farmer of today he should only plant seed of known vitality. Poor seed means a poor stand. A poor stand means a poor crop, and a poor crop may mean a prolongation of the war.

There are several methods of seed testing that may be used. The following is a simple, effective way:

Fill a shallow box two or three inches deep with sawdust or fine sand, take a piece of white cloth the size of the box and with a lead pencil mark it into three-inch squares, moisten the sawdust or sand and lay the cloth on top of this; then place the seed to be tested in these squares and cover with another piece of cloth. Place the box in a room where the temperature is fairly constant and note the results in 5 to 10 days; the time depending on the kind of seed and the temperature of the room. (It may be necessary to add water to the sawdust or sand from time to time.)

Where only a few samples are to be tested a tester made of two dinner plates and two pieces of blotting paper can be made. Saturate the blotting paper with water and place one piece in the bottom of a plate; spread the seed on top of it and place the other blotter over them and lay the plate inverted upon the first, to cover the seeds and blotters and help retain moisture. With the exception of ear corn, 100 seeds as they run from each sample to be tested, are counted out and placed over the square or on the blotting paper, as the case may be. In the case of ear corn six grains from each ear are usually tested; two grains from near the top, two from the center and two from near the butt. When the test is completed the seeds that have germinated are counted and the per cent. figured. Good seed will test from 95 per cent. to 99 per cent.

**Rupert L. Stewart,**
Station Agronomist.

## THAT FARM MACHINERY

"Time saved is money made," is more true today than ever before; for with the scarcity of farm labor, brought about by the farm boys responding to the call of their country, it is now clearly up to those remaining at home to put forth every effort towards saving time. Only a few hours may mean a great deal towards increasing the crop production later in the season.

Much time can be saved if the farmers will use the cold and windy spring days to put old machines in readiness for the spring and summer drive. The farmer who puts off buying his new machine and repairing his old one is going to be awakened with a saddening jolt about harvest time.

The implement manufacturers are confronted by a shortage of raw material; and instead of a spring surplus, as has been the case in the past, there is every liklihood of a farm machinery shortage this year. Those who contemplate buying tillage or harvesting machinery and tools of any kind should not buy them unless they are sure that by so doing they will economize labor or materially increase production. At all events, place your orders early, for waiting until the eleventh hour may prove disastrous.

If you have implements that you no longer need, let it be known in your community, so that your neighbors may have an opportunity to buy them. Do not keep a lot of unused machines lying around on the farm, but give the other fellow a chance to use them.

In buying new implements, buy the standard makes, and the type and kind that can be used the most efficiently. For example, buy a plow that turns enough soil to make a furrow big enough for a man to walk in. (Occasionally you see a farmer walking outside the furrow because the plow doesn't turn enough soil to make

(continued on page 9)

# Livestock

## FARMYARD AND RANGE SANITATION

(E. P. Johnson, Extension Veterinarian)

This question was never more forcibly brought before the American stockraiser and farmer than in a recent report of the Secretary of Agriculture, when he says that the losses from the common diseases of animals in 1915 were $212,850,000, distributed as follows: Hog cholera, $75,000,000, Texas fever and ticks, $40,000,000, tuberculosis, $25,000,000, contagious abortion, $20,000,000, blackleg, $6,000,000, anthrax, $1,500,000, scabies of cattle and sheep, $4,600,000, glanders, $5,000,000, miscellaneous diseases, $22,000,000, parasites, $5,000,000, poultry diseases, $8,750,000.

These are startling figures, averaging nearly $2.13 for every man, woman and child of our 100,000,000 population. It is a tremendous leak, and must be stopped, if not stopped in the near future we will be face to face with a meat famine. As a means to prevent this some definite plan must be followed. How is it to be stopped? I answer, largely by taking sanitary precautions.

It has been observed by more than one writer on American habits and customs that the American farmers and stockraisers are, respectively, the most destructive and careless people in the world. Greater care must be exercised in the construction of farm buildings for the housing of stock; ventilation, drainage, etc; no manure or cess pools allowed to accumulate in the vicinity. Provide your cow with 500 cubic feet of air space. She needs light also, and proper food. Study her likes and dislikes. She has both (this has been told me by a Mr. Elldredge of Salt Lake City, Utah, the most practical and best informed authority I ever heard speak on the dairy cow). See that an abundant supply of fresh, pure water is on hand. This is important, especially in dairying. If your water supply is impure or contaminated, it will in turn contaminate the milk vessels and the infection will then extend to the milk. Barns should be built where drainage is best. The dairy should be built away from the stable proper, in order that the odors may not reach the milk. If you suspect organic matter in the water, make a test of it. Ty permanganate of potash (K. Mn 04); this is a great oxidizing agent, as it gives up its color in the presence of organic matter. 2 oz of a 2 per cent. solution will purify 100 gallons of putrid rainwater. If animals die of disease, burn them at once; they are a menace to yourself and your neghbors. Do not leave them over ground, in reach of wild animals, buzzards, magpies, pigeons and dogs. This is how disease is spread.

Poultry houses and hog houses should receive attention. Don't put your hens to roost on the cow's back. Build a house for her. She is worth it, and when you get it built, keep it clean and disinfected. Lime is cheap and so is crude carbolic acid or Kreso dip. One gallon of either of these agents in 70 gallons of lime wash or spray will increase your egg output and enable your chickens to enjoy their night's rest. The application of the suggestions to every building where animals are housed will not only be beneficial to them but will help to stop the leak.

The dwelling house should be built where the odors from the barn can not reach it. Get on the windward side. This will help to reduce the fly crop in the home. The windows should be tightly screened. Exterminate the fly. This pest is one of the the worst agents mankind has to contend with. The cesspool and the sewer are his heaven. He gloats in filth. He has six legs, and each leg has 1200 hairs, and they in turn are capable of carrying millions of bacteria. In conclusion I would advise, let in the blessed sunshine, the greatest disinfectant on earth. God gave it to us and it costs nothing.

A dipping vat is an important asset on the farm or range. If you are not able to build one, get your neighbors to help or join you; make it a community affair. Build it of concrete. Dip your cattle twice each year. Ticks and lice reduce their efficiency. Numbers die each year from the activities of these pests. Remember, the cow does not show the parasitic effect of the pest during summer because the grass is abundant the feeding hours long, and the nights short; but with the approach of winter, the short day, the long night, the loss of the green,succulent food, and the increased activity of the parasites will soon tell on the animals, and with the approach of spring the demands of a maturing fetus often prove too much, the cow lies down and dies. She is a victim of your carlessness.

The Extension Department of the State College will furnish plans for a vat. If they have not got them, write to the Bureau of Animal Industry of Washington, D. C. Any of the following agents can be used: Arsenic Kreso dip, lime and sulphur, oil and nicotine. If the above suggestions are followed, you are taking a step to stop the leak, and remember the $212,850,000.

## ANOTHER DAIRY CHAMPION

It is indeed a pleasure to report that the wondereful Holstein cow, Mosella Lyons of Riverside, No. 94670, as a matron in the College herd, has just completed her second Official test, (365 days) with the excellent record of 16,968.1 pounds of milk and 600.88 pounds of fat, with an average test of 3.541 per cent, at the age of 10 years, 10 months and 16 days,—permitting her to hold the championship of the State for the Holstein breed.

Mosella Lyons of Riverside was sired by Duke Lyons of Riverside, No. 38099, with 7 A. R. O. daughters, and her dam was Bertha Lyons of Riverside, No. 64120, a cow whose performance was never recorded. She is a good individual, possessing the distinct Holstein type and characteristics, and finished her test in good condition, weighing about 1450 pounds. She received very little special care as she was permitted to remain with the dairy herd, and was fed the same feeds as our regular dairy herd. For this reason we are very proud of her record, as it certainly gives us a realization of her true worth. Had she been cared for as most cows are on advanced work,

(continued on page 10)

# Fruits & Truck

## SPRAYING TO KILL THE CODLING MOTH

With the approach of spring the farmers of New Mexico are beginning to think about spraying and saving the big apple and pear crop this summer. The Station is receiving many letters asking for information about spraying for the codling moth, and it is to give this information that this artice is published.

The moth itself does not eat fruit, but lays eggs on the fruit and leaves, which hatch into little worms that immediately eat into the fruit to the core. These worms destroy thousands of dollars worth of fruit annually, sometimes causing practically the entire crop to fall off of the trees before it is matured.

The codling moth winters in the larval stage and emerges as a little brown moth in the early spring. These moths begin laying their eggs about the first of May at the Station, where extensive investigations have been conducted.

**When to Spray.** In most of the fruit sections of the United States it has been found that the codling moth prefers to enter the apple through the calyx end. For this reason it has been found best to apply the first spray just after the petals drop, or just before the calyx closes, to have the little calyx cup full of poison. No definite date can be given for this first spraying, as the time varies with the season, the locality and the variety of fruit. At the Station it usually comes about the 18th to the 20th of April. The second spray is applied in about 17 days after the first, to catch the first brood of larvae which is beginning to hatch. There is a distinct break between the first and second broods of larvae; so the third spraying is not given for about 38 days after the second. After the second brood begins the codling moth are very numerous through the season, with no definite break between the different broods. Out of about 60,000 eggs studied in the Station Insectory, about 75 per cent. of them were laid during the months of July and August, and about 45 per cent. were deposited in July. This shows when our strongest attacks are to be made. The fourth, fifth and sixth sprays should be given about 22 days apart.

The following is a schedule worked for 1917 at the Station:

**For Apples**

April 24
—17 days.
May 11
—38 days.
June 18
—21 days.
July 9
—22 days.
July 31
—22 days.
August 22

**For Bartlett Pears**

May 11
—39 days.

June 19
—29 days.
July 18

The above schedule will have to vary to conform with the spring. Last year the first spray was given on April 24, but the season was unusually late.

In the higher and cooler districts where there are fewer broods of the codling moth, and they are more easily controlled, it might not be necessary to spray as many times as in the lower and warmer parts. In the colder and higher localities the first spraying would be so late that the sixth would come too late; so it could be left off, leaving only five sprays. If this still seems to be giving more sprays than necessary, one of the first two sprays might be omitted, making four sprays.

**How to Spray.** Arsenate of lead is recommended, and is applied at the rate of three pounds of the paste or 1 1-2 pounds of the powdered form, to 50 gallons of water. The powdered form is more easily mixed. It is best to give the first spraying with the Bordeaux type of nozzle, and the remaining applications with one of the vermorel nozzles, which throws a solid, cone shaped mist spray. Either a power or hand sprayer may be used; but a good pressure behind the spray will add materially to the efficiency of the work.

A. B. Fite.

Do not forget to manure your land for the War Garden.

Be careful to plant the proper vegetables and proper varieties at the right time.

Write to the College for detailed information on War Gardens.

(continued from page 5)

## THAT FARM MACHINERY

a good path to walk in.) One good way to save machinery costs is to buy cooperatively. Let the expensive machines do the work of several farms. This will help to overcome the shortage and at the same time save the farmers dollars and cents.

Again, **remember** that every piece of machinery that will be used this season can be put in working order at the lowest cost now; so order your parts and repair your machines **now.**

Buy new implements now.

Buy cooperatively, and in so doing you will help to defeat the Kaiser.

**Rupert L. Stewart,**
Station Agronomist.

## MARKETING OF PINTO BEANS

One of the greatest drawbacks in the marketing of the New Mexico Pinto bean crop has been that no uniform standard has been conformed to of grading. Some of the growers have given considerable time and attention to the cleaning and grading of their beans, putting on the market a first class product, while others have been very careless, allowing all kinds of foreign matter to be marketed with their beans. If we expect to establish a market for our product we must adopt some standard grade, and adhere to it. We may spend thousands of dollars in advertising the wonderful qualities of the Pinto bean, but we shall get no place until we can offer to the market the advertised product. The housewife who buys Pinto beans for the first time, and finds all sizes and colors, with foreign matter mixed with them, is not going to place a second order, when she can buy nice, clean Navy's, uniform in size and color, and free from small rocks, dirt and trash. We must not overlook the fact that we are competing with other bean-growing sections of the United States, and if we hope to win a place in the race, we must give the matter of putting a first class product on the market more attention.

The following grades and rules, adopted by the Rocky Mountain Bean Jobbers' Association, if conformed to, will do much in establishing a permanent market for our beans.

**"CHOICE RECLEANED (after threshing) through a Bean Cleaning Machine, and shall be a uniform run of bright, sound, dry, medium to large Pinto Beans; and may contain in weight not over one-half of one per cent. of dirt, adobe, small stones or foreign matter; and may contain not over one and one-half per cent. of split beans, and six per cent. of weather damaged, shrunken, frost bitten or discolored beans. Weather damaged, shrunken, frost-bitten or discolored beans shall include only such beans as, when split, show meat discolored or darker than the meat of the rest of the healthy beans in the sample."**

**A. C. Cooley,**
Director of Extension.

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she would have made a much higher record.

Her previous A. R. O. record of 13,460 pounds of milk, and 479.57 pounds of fat, at the age of 7 years, 6 months and 18 days, placed her at the head of Holsteins in New Merico.

**Good Cows Always Pay Big Dividends**

Her fat production of 600.88 pounds, if figured as butter (88 per cent fat) would have made 750.1 pounds of finished butter, which when calculated at the average price of the year (45c) would have amounted to $337.54. Considering skimmed milk worth 30c per hundred-weight would permit us to credit her with $48.00 for her skim milk, making a grand total of $385.54 CREDIT,—considering that her calf and manure paid for labor, and placing the feed cost at the high figure of $150, she gave the College a net return of approximately $200. Considering her milk worth 25c per gallon (the wholesale price) she would have returned the College the magnificent sum of $493 less $150 for feed, giving $343.00 net return to her credit. Her average daily milk production was 46.48 pounds and her average monthly milk production was 1414 pounds.

**J. R. Meeks,**
**Asst. Prof. in Charge.**

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## SOME DO'S AND DON'TS IN HOG RAISING

Many farmers of the State will raise hogs this year who never have before, and it might be well for them to consider some of the problems of hog raising.

Altho there is no safer or surer agricultural enterprise than hog raising, a little thoughtlessness or lack of knowledge on the part of the farmer, might lead to disaster.

While it is true that hogs will eat anything put before them, there is no animal which responds more quickly to good management and proper feeding than does a hog.

The hog was made to root for a living, don't try to feed him out of a paper sack. Keep your hogs on pasture whenever possible, they can gather the crops cheaper than you can and they will build up the soil at the same time. If hogs on alfalfa pasture are fed two pounds of grain per thousand pounds live weight, one may expect an acre of alfalfa to produce from five hundred to a thous-

(continued on page 16)

# Food Conservation

## FOOD WILL WIN THE WAR

### MUST SAVE MORE FOOD

We have saved some food during the last few months, the months since there has been a Food Administration. We have made a good beginning. But it is only a beginning. We must save more, not simply more in total, but more each month.

We have already sent overseas for our army in France and the soldiers and civilians of our Associates in this war all of our surplus wheat and meat and fats. But they need much more. We can keep on sending them what they need in only one way, and that is by lessening our own consumption of the food we have on hand and are constantly producing. We need to reduce our consumption of wheat by one-third and of fats and meats by one-fifth. Doing this will not injure us in the least, for we are now eating much more meats and fats than we need and we can easily use corn and other cereals to a considerable extent in place of wheat. So, beginning right now, the Food Administration asks the American people to save more food than they have been saving, by faithfully following the new program outlined in the Home Card of 1918.

Not all of our people can eat less than they now eat, for many are unable to buy more food than they actually need. But if all who can save will save there will be enough for all of us, our Associates in this war, friendly neutrals and ourselves.

Do not hoard food, for the Government will keep in this country enough of every essential kind of foodstuff to supply all of the people. The Government has no intention of ever taking an ounce of the home-made preserves or of the home-grown products kept in the pantry or cellar. Anyone who tells you otherwise is working for the enemy, either intentionally or unintentionally.

U. S. Food Administration.

## FOOD FACTS OF WORLD SCOPE

### New Zealand Maximum Wheat Price $1.41

New Zealand has established a maximum government price of $1.41 per bushel for the new wheat crop and will also control its purchase and distribution.

### Binder Twine Prospects

Because it is essential to the cereal supply, binder twine is under the control of the U. S. Food Administration. Reports from binder twine establishements show ample capacity for taking care of the Nation's needs, even should the grain acreage be larger than expected. The Food Administration directs the distribution of sisal from Yucatan to the various twine mills, and there is no opportunity for speculators to take advantage of war conditions for private gain. Manufacturers will be limited to a reasonable profit.

### Plausible Propaganda "Made in Germany"

Information secured by the U. S. Food Administration indicates a well-planned German propaganda intended to magnify the distress of the Central Powers with respect to their food supply. By painting conditions worse than they are, the enemy hopes to lull the American mind into the [illegible] that we are fighting people on the verge of collape and that early peace is certain.

Fake letters have been found on German prisoners, that were written with the express purpose of giving the impression that conditions at home were exceedingly serious. America must not believe that Germany is starving. With the thousands of square miles of productive wheat lands in Poland, Roumania, Serbia, Belgium and France, as well as the recent arrangement with Ukraine, Germany will not lack for food producing areas the coming season.

The Allies' blockade is useful chiefly to compel a diversion of German energy from war industries to agriculture. Any report, cablegram or letter portraying weakness of the Central Powers, especially purporting to be inside information, bears the earmarks of German propaganda.

**U. S. Food Administration.**

## THE POTATO SITUATION

The potato marketing situation at this moment appears to be serious according to a statement just issued by the U. S. Department of Agriculture. The total production in 1917 is estimated to have been 442,536,000 bushels, or the largest crop ever produced in the United States Notwithstanding this fact, prices from the time of digging to the present have ruled higher than in any previous year of which we have record with the exception of last year when the crop was abnormally short.

The Department of Agriculture has been able to compute the movement of the present crop with more accuracy than has ever been possible before, and from all the information available it appears that not more than one-third of the marketable surplus of the crop of 1917 has been moved up to December 31. In other words, there remained to be moved upon January 1, two cars of the crop of 1917 for every car marketed up to that time. The movement since January 1 has not been noticeably accelerated. The present reserve stocks are so widely distributed that the transportation problems presented do not appear to be acute. Generally speaking, more potatoes could be moved if offered for shipment.

The situation demands enlightened, patriotic and vigorous action on the part of all concerned in the movement of this crop. Unless large dealers promptly move the stocks on hand in order to speed up distribution and bring the large reserve still on the farms into the channels of trade, heavy wastage of the crop appears certain to result later in the season. It is believed that dealers will in the end find it wiser to move present holdings without profit or even at some loss rather than to risk destructive wastage later in the season. At the same time, present retail prices must be somewhat reduced if potato consumption is to be stimulated as it should be.

Prices at point of production have generally declined since digging began and many dealers are reputed to hold large stocks purchased at prices higher than those now prevailing. This may account in some measure for the present slow rate of movement out of some of the heaviest producing areas and for the abnormally

(completed on page 16)

# Boys' and Girls' Clubs

## TO THE CLUB BOYS AND GIRLS OF NEW MEXICO

We have now in the history of our country reached a point where we must all, every one of us, realize that a war is being waged, of whole nations, every man, woman and child is involved and all must share in this world task.

This helpful organization of boys and girls industrial clubs maps out a plan for rural boys and girls, aiding them in serving their country for a good cause. The work is planned and carried out by trained, experienced leaders, the club members merely lend their good will, determination and desire to enter a project and work faithfully towards its completion.

In complying with the demands that our food administrator is asking, we must adapt our club lessons this year to the conservations of sugars, fats and wheat. Our cooking lessons will be arranged on this conservation plan.

With our sewing lessons, we may again show our patriotism. Every one of us considers it a patriotic act in adding to the bodily comforts of our soldiers in training. We shall in our sewing lessons learn stitches in knitting and others which we may use in actual practice.

Then with the field crops the boys and girls shall continue the useful, profitable work which has before been accomplished in our State by the Club members.

Aside from asking our boys and girls to aid in this present crisis, at all times we help the country youth to help themselves.

We expect great things of our Club workers this year and at the same time of their leaders; a great responsibility rests on them, and in this she must have the support of the people in her community, especially of the parents of the Club members, as their counsel and encouragement can go farther than anyone else's; we expect this support of all parents.

Finally, we want every member of the industrial clubs to feel that,—

Where the star flag waves in the light
of the sky
There's a strong, clear call to me.
For the right of the world,
Must the star flag fly,
Till the right win the fight of the free.

**Gertrude Espinosa,**
Assistant in Boys' and Girls' Clubs.

---

The liquid and dry plaster should be thoroughly mixed and stirred so that the liquid will be uniformally distributed through the mass of the plaster. When enough plaster has been added the resulting mixture should be a dry, pinkish brown powder having a fairly strong carbolic acid odor and a rather less pronounced gasoline odor. Do not use more plaster in mixing than is necessary to blot up the liquid. This powder is to be worked into the feathers of the birds affected with vermin. The bulk of the application should be in the fluff around the vent and on the ventral side of the body and in the fluff under the wings

**R. B. Thompson.**

## THE POTATO SITUATION

(continued from page 14)

wide difference between present wholesale prices to the grower and retail prices to the consumer.

Under existing and prospective conditions no material quantity of potatoes can be exported or converted into non-perishable products this season. The crop can not be carried over. It must be consumed or wasted. The food situation throughout the world demands that it be consumed effectively to relieve the existing strain on the supply of cereals. It is the one great food resource of the world upon which there is now danger of a heavy loss, and the Department is of the opinion that the situation demands that farmers sell freely; that the larger dealers move their stocks rapidly; and that the retailer content himself with the smallest possible margin of profit, realizing that he is now the most important factor in speeding up potato consumption.

**U. S. Department of Agriculture.**

## COMPARATIVE FOOD VALUES

(continued from page 12)

When beans are substituted for bread there is no need for adding any supplemental materials, except that if beans are made into bread it is necessary from the physical nature of bread to add some binder, such as wheat, flour, or eggs to the beans.

At the present time when our own pinto bean can be purchased at eight or ten cents per pound it is very evident that they should be used much more freely than they are at the present time.

It should be remembered, however, that beans should not be fed to a child under three years of age and fed sparingly to the child under ten years of age. Beans for adults should be submitted to long, slow cooking if fuel conditions permit. The fireless cooker, either home made or of a commercial type, lends itself very satisfactorily to the cooking of beans.

The kaiser does not want us to substitute beans for meat and bread.

The Kaiser's "bomb proof" sons do not want our allies to have our beef and bread.

Our own boys are "over there" and Uncle Sam says use beans instead of beef and bread.

"He who is not for Me is against Me." Let's use more beans.

## SOME DO'S AND DON'TS IN HOG RAISING

(continued from page 10)

and pounds of pork in one season. Don't try to raise hogs on alfalfa pasture alone.

In sections of the State where they can be grown any of the following crops can be used to advantage for hog pasture: Corn and cow-peas or soy beans, Rape, and peanuts. It has been reported that hogs can be used to recover ground infested with Johnson grass. Crop failures can often be turned into a profit by pasturing them with hogs.

Feed all skim milk, buttermilk, slops from the kitchen, cull beans, potatoes, apples, vegetables and other products for which you have no market to hogs.

As long as the pig has a curly tail and a good appetite he is all right, but as soon as his tail begins to droop, and he will not eat up his feed, it is time for a change of ration, or to call a veterinarian.

**J. D. Hungerford,**
Nutrition Chemist.

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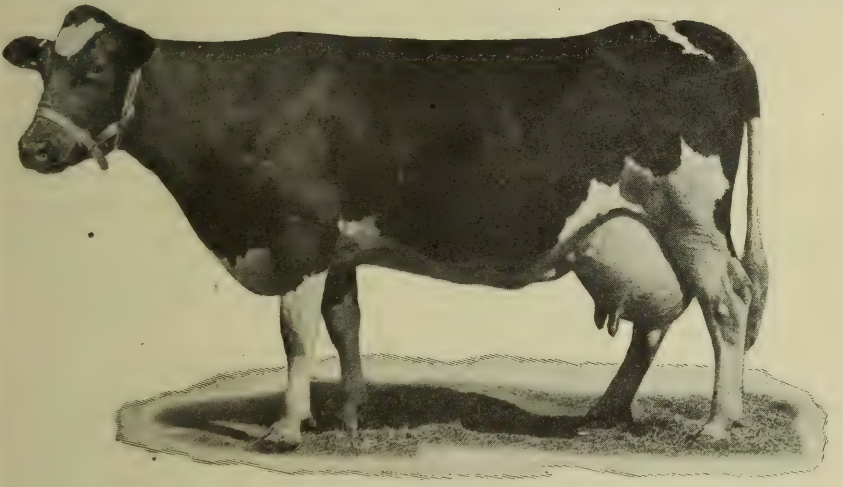
# THE NEW MEXICO FARM COURIER

VOL. VI. APRIL, 1918 No. 5



ARCADY SEGIS BARBARA NO. 187723.
A. R. O. (record)
599.2 lbs. milk,
28.8 lbs. butter in 7 days.
Owned by State College.

Published Monthly by the
Extension Service, New Mexico College of Agriculture and Mechanic
Arts, State College, N. M.

In Cooperation with the U. S. Department of Agriculture

The
New Mexico Farm Courier

Published monthly by the New Mexico College of Agriculture and Mechanic Arts and sent free of charge to residents of New Mexico on application.

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AUSTIN D. CRILE, President of College.
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY, Director of Extension.

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Mae M. Hawley .........Executive Secretary

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# EDITORIALS

## THE WAR

(President Crile)

Seed time has again arrived, and in planning our crop work for the coming year it is still necessary for us to thoroughly mix all our plans with patriotism. The great world war is more strenuous than at any time since the summer of 1914. The great Armageddon is now pitched, and on the next few months very much will depend. America and the allies must win. Our cause is that of justice, and by one way or another it must prevail. But we cannot depend upon the Lord's feeding our armies and our allies with manna from heaven or quails from the desert; but we shall need to plow deep, plant well, and feed carefully, that we can surely have an abundance of food for all.

Neither is this a proper time to grumble and complain about regulations concerning our business, set forth by the Government. We should willingly submit to any form of paternalism that might be necessary, in order to make democracy last and safe. The farmers have not been slack in doing their share in this world war. They have gone on no strikes. They have not asked for their business to be turned over and financed by anybody; but they have, in a form of patriotism which is beyond the challenge of any one, contributed their bit to the general comfort and welfare of the entire world.

If we have seasonable weather in 1918, I predict that New Mexico will double her production of foodstuffs.

## PORK

The present condition of the hog business in New Mexico is alarming. Farmers have sold out their stock until there is a real shortage of hogs in this State and in the adjoining States. The high price of grains and the drouth combined to do this; but let me sound a word of warning, we must have pork; we must have the fat, hams, and bacon to help win this war. The irrigated sections, especially, of New Mexico are a genuine hog paradise. I strongly advise every person who is at all situated to do it, in the better dry-farming communities and in the irrigated sections, to get one or more sows and have them farrow in the fall, that we may bring on more hog products. From an economic standpoint, a few hogs, carefully taken care of, are the best money makers that you can find.

Any information as regards feeding or care for hogs, sanitation about the pens, or marketing of hogs, will be gladly answered, if addressed to the College.

---

The following resolution was adopted by the convention of the New Mexico Wool Growers' Association, recently held at Albuquerque; a similar resolution also having been adopted by the convention of the New Mexico Cattle and Horse Growers' Association, held at East Las Vegas a few weeks ago:—

"Resolved, That the New Mexico Wool Growers' Association heartily endorse the excellent work being done by the New Mexico College of Agriculture and Mechanic Arts, under the direction of Dr. A. D. Crile, in the interests of Animal Husbandry in this State, and we pledge our hearty cooperation in those efforts which will tend to increase production and lessen losses on our ranges through the feeding experiments and other investigations now being conducted by the College."

---

As the time for hatching is practically over get rid of the males. Produce infertile eggs.

---

## Men in Second Draft Will Be Called in Small Groups So as to Interfere as Little as Possible With Industry and Agriculture, Says Gen. Crowder.

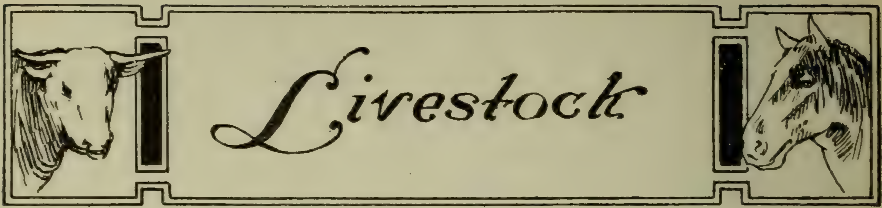
(From Official Bulletin, March 12, 1918)

### Agricultural Labor

There are difficulties confronting the Nation in the supply of labor appurtenant to agriculture. Class 1, from which new levies are to be withdrawn, will contain many more men than are at present required for the Army. It would be a most unscientific and fatuous step if the men in class 1 were called indiscriminately without regard to the labor situation in agriculture. Therefore, the local boards will be directed to fill their quotas in the order of liability of men in class 1 as determined by the national drawing, except that where it is shown that a registrant is completely and assiduously engaged in the planting, cultivation, or reaping of a crop, his call to the colors shall be deferred to the foot of the quota of his board as long as he continues to be so engaged.

Whenever any registrant whose call to the colors has been deferred by reason of his engagement in agriculture is shown to have been idle on the farm on which he is engaged or to have trifled with the deferment that has been accorded him, the boards will forthwith induct him into military service if his order number has been reached in the meantime. The effect of this expedient is to grant furloughs from service prior to actual call to the colors to the men so greatly needed in the production of this year's crop.

This is not, however, the only expedient that is to be adopted to conserve the supply of labor appurtenant to agriculture and to mobilize all means for increasing the harvest for the agricultural season of 1918.



# Livestock

## LIVE STOCK AND THEIR CARE

To be successful in raising livestock it is necessary to know something about the habits of the animals and their dispositions. The most successful business men of today are they who study the human being. Why?—because man is their source of revenue. If the stockraisers expect to derive compensation from livestock, they too must give close attention and study to the animal. The average stockman of today neglects to study the animals from which he intends to derive a revenue, few if any of them understand the value of the clinical thermometer; or know the respirations, pulse and temperatures of their stock. The following table may be found serviceable.

| Name | Temperature | Pulse | Respiration |
|---|---|---|---|
| Horse | 100.4 | 36—40 | 8—10 |
| Cattle | 101.3 | 45—50 | 12—15 |
| Swine | 102.8 | 70—80 | 10—15 |
| Sheep and Goats | 103. | 70—80 | 12—20 |

These tables may vary somewhat under the following conditions,—exercise, fright, disease, change of quarters and climatic conditions. The great merchant princes of our country, before embarking in a business, study it from all angles. They know the history of their goods; how they are manufactured; the cost of production; and the amount of revenue they will make.

Many stockmen fail to study the environments. Their ranges or pastures are overestimated and in many cases the carrying capacity is reduced 50%. Where these conditions exist it takes a number of years to restore them to their normal conditions. The last two years in New Mexico and the drought stricken areas of the southwest have taught us a fearful lesson. There are, however, some men who make provisions for the future in having a supply of feed on hand—especially cottonseed cake. Their losses as a rule are light. Their stock are in better condition in the spring, and their calf crop is above the average. This has been demonstrated at the Turney ranch in Dona Ana county. Every pound of feed judiciously given to a healthy animal gives a return.

E. P. JOHNSON

## LUCY'S DOLLY—A FOOD PRODUCER

Lucy's Dolly, a registered Jersey cow belonging to Meldrum Gray of Roswell, has just completed a year on official test. In the year 1917 she produced 13,223.3 pounds of milk containing 718.74 pounds of butter fat, on the 80% basis. This means 898.4 pounds of butter. This makes her the champion cow for New Mexico in butter fat production. With butter selling at 50c per pound as it does in many parts of this state, this cow returned $449.20 to her owner for butter alone. Then there is 13,223.3 pounds of skim milk and a good calf besides. Very frequently we hear the statement from men who want to buy a cow that they can't afford to buy a good cow. A great many people of New Mexico have the idea that a beef animal produces more food than does a dairy cow. Since the great war has caused a cry for more food by the hungry world, a comparison of the actual food value produced by a cow during one lactation period with the actual food produced by a beef animal might prove interesting to many. With due apology to those interested in growing beef cattle, the following comparison will serve to illustrate the point in mind.

To further analyze the 13,223 pounds of milk produced by the cow Lucy's Dolly, this milk contained—

718.74 pounds butter fat,
645 pounds milk sugar,
399 pounds casein,
93 pounds ash,
70 pounds albumen (protein).

The butter fat is the best of all fats for human food and contains the vitimines, the essential element for body growth and development. The milk sugar is the most nourishing of all sugars. The casein and albumen are the foods necessary for the building of new body tissues and repair of those worn out. In all, this cow gave 1,697 pounds of digestible foods in one year.

Comparing these results with the amount of food produced by a steer, at one time grand champion at the International Fair at Chicago, this animal gained in one year 700 pounds; his carcass dressed about 400 pounds. After deducting the bone and water which amounted to 50% of the dressed carcass, there remained about 200 lbs. of edible meat.

The cow on practically the same amount of feed produced over 8 times the amount of human food that the steer produced, and he gave up his life to produce the 200 lbs. of human food, while the cow has given many times over this amount of food and is still capable of several years of service and on top of this Mr. Gray, her owner, has several head of first class animals on his farm produced by this cow, some of which give promise of being her superior.

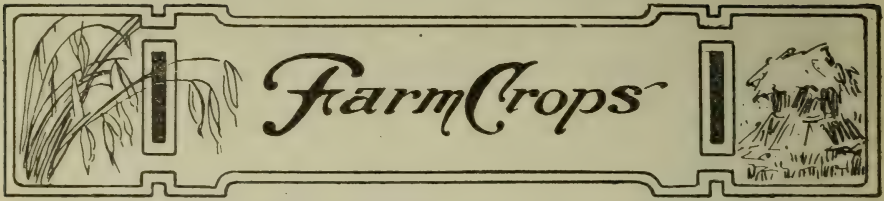
The remarkable part about the record made by Lucy's Dolly is that she did not receive any special attention during the time she was on test. She stood in a stanchion along side the other cows and came and went with the others of the herd. Only for a part of the time did Mr. Gray have an experienced herdsman caring for his cows.

JOHN E. WATT,
State Dairy Agent.

## FRONTISPIECE — ARCADY SEGIS BARBARA NO. 187723
## A. R. O. NO. 38371

Arcady Segis Barbara No. 187723 is one of the excellent Holstein cows in the College herd. She was sired by Colonel Beets Segis No. 51507 and her dam was Arcady Pontiac Korndyke Idlena No. 124420. She is a grand-daughter of King Segis No. 36168 on her sire's side and a great grand-daughter of Hengerveld De Kol No. 23102 on her dam side. Her first introduction into A. R. O. company was made at the age of 3 years, 8 months and 10 days with 469.2 pounds of milk and 13.769 pounds of fat to her credit in seven consecutive days. She was re-entered at the age of 5 years and 25 days with 599.2 pounds of milk and 22.433 pounds of fat in seven consecutive days. She began her present test at the age of 6 years, 1 month and 18 days (beginning November 25th, 1917). In the first 98 days of her test she produced 6712.4 pounds of milk and 217.353 pounds of fat, which is an excellent start on a year's record (365 days). At present she is producing on the average 64 pounds of milk each day, practically 7½ gallons. If this amount of milk were sold at the

(Continued on page 12)



## Farm Crops

### BEAN GROWERS ACCEPT BEAN PRICE

Reports from practically every bean growing district in the State indicate that the farmers are accepting the plan of the U. S. Food Administration for purchasing the Pinto beans. Contracts are being signed every day. It is difficult to estimate the number of pounds of beans so contracted but there will be fully 75% of the beans available disposed of in this manner. The Food Administration is helping in every way possible to establish the Pinto bean on the eastern markets. The following bulletin was sent to dealers and published in eastern newspapers:

**Testimonials Concerning Pinto Beans**

"The United States Food Administration endorses the pinto bean, pronounces it equal to the navy in food value and flavor, and urges greater consumption on the part of the general public, in order to save meat, reduce the cost of living, and aid in marketing an unusually large crop.

"The Army and Navy Board having tested pintos fully have recommended them for use in the various cantonments.

"Thousands of consumers are cooking them daily.

"Hundreds of hotels, restaurants, and railway dining cars are serving them.

"The United States Bureau of Home Economics, New York City, reports on the pinto bean as follows:

"We found the 'Pinto Bean' compares very favorably with Navy beans in regard to the length of time of cooking, flavor and adaptability in the making of various dishes. They seem to give a more mealy result with less tendency to break up and become mushy in baking, as is the case with Navy beans. In addition, the flavor of the finished product is fully as good and possibly even superior to that of the Navy bean."

"We found that the 'Pinto Bean' adapted itself very readily to the making of soups, loaves, muffins, etc. Of course, the age of the various beans is a factor in determining the time of cooking--the older the beans, the greater time allowed. We believe, however, judging from the sample submitted, that the pinto bean may be cooked in much less time than the other varieties with which we have experimented."

The pinto bean can be bought at from 5 to 7 cents less per pound than white beans at the present time. Ask for pintos. Eat pintos. Interest others in pintos. In this way you will reduce the cost of living to yourself; help save the meat; and aid in marketing a large crop, so that a much needed large acreage will be planted next season.

**Plant Pinto Beans**

The Food Administration is paying eight cents per pound for the present 1917 crop of Pinto beans. This should so establish the pinto in consuming centers that the 1918 crop should sell readily at prices profitable to the producer. The Bean Division, U. S. Food Administration, Denver, Colorado will sell pinto bean seed to growers at cost, or $8.80 per hundred pounds f. o. b. shipping points, plus cost of handling. Apply to your County Agricultural Agent for seed and information regarding methods of growing.

# Fruits & Truck

## WARM SEASON VEGETABLES

Tomatoes, beans, sweet corn, ochra, musk melons, water melons, cucumbers, squash, eggplant, peppers and sweet potatoes are among the best warm season crops to plant. None of these crops can stand freezing weather; and consequently they must be planted out in the open after the danger of frost is over. Some of them require quite a long season to mature; and in the higher altitudes where there is a short growing season, such vegetables as the tomato, pepper and eggplant may not give the best satisfaction unless the earlier varieties are started in a hotbed or coldframe, so that the plants may be hardened by the time the danger of frost is over ,when they should be transplanted to the open. In the lower and warmer valleys in the State most of these vegetables can either be transplanted or planted out in the open from the first to the last of April for early vegetables. In the higher and cooler parts of the State, where the growing season is shorter, the time to plant them in the field will be somewhat later. Most of them may be planted from the first to the last of May.

The Earliana tomato is about the earliest variety and the seed should be started in a hotbed or cold frame early in the season, so that the plants may be transplanted to the field by the time the danger of frost is over. The Stone is one of the good later ripening varieties. Transplant the plants three to four feet apart on the side of the ridge and five feet between the rows. This is a good way to grow tomatoes, as the irrigation can be done through furrows or small ditches, and the vines can be trained back to the middle on dry earth.

Peppers can be grown in the same way as tomatoes, except that the distance between the plants is reduced considerably. Place the plants about two feet apart in the row and three to three and a half feet between the rows. Do not have more than three plants to a hill.

Sweet potatoes are started by bedding out the tubers in a cold frame or hotbed and transplanting the "slips" from fifteen to twenty inches apart on the side of the ridge and from three to three and a half feet between the ridges. The Yellow Nansemond and Yellow Jersey are good table varieties, while the Red and White Bermuda and Southern Queen are much larger and coarser varieties, but very heavy yielders. All transplanted plants must be irrigated immediately after they are set out and before they wilt down.

A number of varieties of sweet corn can be grown satisfactorily. The greatest trouble with sweet corn is with the ear worms. Stowell's Evergreen and Country Gentleman, while not quite as early as some of the other varieties, produce a little larger ear, and on the whole seem to be slightly more resistant to the worms.

Water melons can be planted on the side of the ridge at the edge of the water marks, four to five feet apart in the row and six to eight feet between the rows. They should be irrigated thru furrows or ditches and the vines trained back to the high middles. Kleckley Sweet, Florida Favorite, and Tom Watson are three good varieties.

Canteloupes can be planted in the same manner as water melons, except the distance in the row may be three to four feet, and four to six feet between the rows. Burrell's Gem, Rockyford and Honeydew are three good varieties.

The Santa Claus and Improved Hybride are two good varieties of casabas, which may be planted in the same way as canteloupes.

String beans may be planted on the side of the ridge or on the level. One quart of seed should plant a row one hundred feet long. It is much better to plant the seed in moist soil instead of "irrigating it up." If the beans are planted in dry soil and then flooded to produce germination the stand, as a rule, is much poorer. The Stringless Round Green is one of the best string beans, and the Stringless or Refugee Wax a good yellow podded variety. A good mellow soil is better than a heavy adobe soil for beans.

Write to the College for additional information if desired on any of these or other vegetables.

FABIAN GARCIA,
Horticulturist.

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## SMUDGING

The Station has considerable data on smudging peaches, but very little on the other fruits. For this reason it is very difficult to make any statements regarding other fruits which would be at all definite. There are, however, certain things which should be considered by everyone who is anticipating smudging.

It is important to know, (1) about how many days of killing temperature there are, on an average, during the time the fruit crop is most susceptible to frost injury; (2) how many hours per day the temperature averages low enough to endanger the fruit crop; (3) how early the fruit which is to be protected, blooms in the locality in which the smudging is to be done; (4) how late in the spring the killing frosts occur, on an average; (5) whether winds generally accompany the cold waves, and whether it is cloudy or clear. If all of these factors are favorable, smudging may be done more satisfactorily and profitably, that is, if there are only a few days of cold weather each spring, after the fruit is in the danger period, only a few hours of cold per day, and only slight winds accompany the cold, with frequent cloudy nights, smudging may be done successfully and profitably, providing the crop is properly handled and disposed of.

The Weather Bureau reports give data on the first point; and by closely studying the matter one may determine rather accurately whether there are more cold days than he can afford to smudge. There are places in the State where the pots seldom, if ever, have to be lighted more than two and a half hours before sunrise, while in others it is sometimes necessary to light the pots about midnight and keep them going until sunrise. It is generally colder just before sunrise than at any other time during the day.

The following figures will give some idea as to the amount the temperature was raised at the Experiment Station by using different numbers of smudge pots per acre.

**50 pots to the acre, no wind.**

| **Smudged** | **Not Smudged** |
|---|---|
| 26 degrees | 24¾ degrees |
| 29 " | 26-1-3 " |
| 29 " | 25 " |
| 28 " | 26¼ " |
| 28 " | 26¾ " |
| 28 " | 27¾ " |

**70 pots to the acre, strong wind.**

| Smudged | Not Smudged |
|---|---|
| 27 degrees | 26 degrees |
| 26 " | 23 " |
| 25½ " | 22 " |
| 25 " | 21½ " |
| 22 " | 18 " |
| 21½ " | 18 " |
| 23 " | 20 " |
| 21½ " | 17 " |
| 24 " | 22 " |

It will be noticed from the above figures that the greatest difference at any time was four degrees, between the smudged and the unsmudged areas, when fifty pots were used and no wind blowing. With seventy pots and a strong wind the greatest difference was four and a half degrees.

It is generally conceded that apple buds can stand more cold than peach buds. Our experiments show that the peach buds, when just coming out, can stand a temperature of 26 degrees for several minutes. We have no data on how long the buds will stand this temperature and remain uninjured.

There should be an adequate supply of oil on hand and facilities for handling it quickly in case refilling is necessary. Accurate and reliable thermometers should be used in order to keep track of the temperature, and they should be observed every ten or fifteen minutes, from the time the temperature gets within a few degrees of the danger point until after sunrise. There should be about a hundred pots to the acre, even if only a portion of them are needed. It is often necessary to light only a few of the pots in order to keep the temperature to or above 26 during the first half hour; however, it is almost always necessary to light more pots before the sun comes up.

On the average the gallon pots will burn about a quart of oil an hour, and the two-gallon pots about two quarts; so pots lighted four hours before sunrise may have to be partially refilled.

The Troutman, Bolton "Lard Pail" and Hamilton pots were used, and all gave satisfactory results. The two-gallon pots were found to be more efficient than the one-gallon.

All who intend to smudge should get bulletin No. 89 of this Station, as it has many good suggestions along this line. J. W. RIGNEY.

## TO MAKE WASTE PAPER DO WAR WORK

### Albuquerque Chamber of Commerce Starts "Patriotic Postscript Plan" For Driving Home War Savings Appeal

"Every letter sent out by the Albuquerque Chamber of Commerce will hereafter bear a special patriotic postscript, urging the purchase of War Savings Stamps. The stenographer who writes the letter will compose her own postscript, and present the idea in a new way with each letter if she likes." The above announcement was made at the office of hte Chamber today.

Square miles of waste paper, worth millions of dollars as advertising space, go to waste at the bottom of short letters every day of the year. Why not make this waste paper do war work? This is the question to which the "Postscript Plan" appears to offer a satisfactory answer. The adoption of the plan is being urged on merchants, professional men, and every person in Albuquerque who writes letters.

Albuquerque is claimed to be the first city in the West to adopt the Kenosha Plan for financing war relief, and now adds the "Postscript Plan" to her list of patriotic ideas. While now being used in the War Savings Stamp campaign, the idea will later be urged as equally adaptable to food conservation, liberty bond campaigns, and other patriotic work.

## INCREASE THE HONEY CROP

New Mexico can add very materially to honey production in the United States and so help lessen the consumption of sugar. There is, also, a huge demand from the overseas hospitals for honey that can not now be supplied at all. In our valleys where alfalfa, fruit and garden crops add so materially to the honey pasture provided by the fine list of native honey yielding flowers, and where our climate is particularly favorable to bee culture, there is no reason why very much more honey should not be produced. The commercial apiaries could be increased in number for export production from the State and the number of home size apiaries could be increased sufficiently to supply home consumption practically. The "family bee" may be placed with the "family pig" as a great, economical, conservative factor in these times. For it makes food from a source otherwise entirely unavailable, and it does probably a greater service as a pollenizing agent.

There is little danger of over supplying the market. The number of bee keepers is decreasing while population is increasing. The "family bee" in too many cases has given way to commercial apiaries. Few business ventures pay the returns the bee hive does to the man with a few backyard hives, which he can so easily care for in spare moments. Just employ those spare moments **wisely**, and the bee will do the rest.

Do not think the bee may be neglected and give good results, any more than will the neglected pig or the uncared for crop bring returns. But, for the amount of first rate care necessary, the returns are very high, indeed, from the bee.

The United States Department of Agriculture has detailed a bee expert to do demonstration work in California, Arizona and New Mexico. There are various bulletins published by the U. S. Department of Agriculture on bees and bee keeping,—general care of bees, swarming, wintering, diseases, etc..—that may be had by writing to the Editor and Chief, Division of Publications, U. S. D. A., Washington, D. C. An excellent book on "Productive Bee Keeping," by F. C. Pellett, State Apiarist of Iowa, has recently been published by J. B. Lippincott, Chicago, Ill.

The back lot in town will serve well for the "family bee,"—we all can have a chance at it. Know the bee's needs and the best methods for meeting those needs at the right time: plenty of room in the hive, movable frame hives, accessible honey plants, clean quarters, and protection from wind, winter cold and summer sun. It is not necessary or advisable to plant cultivated crops merely for honey production. Use the available supply.

D. E. MERRILL,
Biologist.

## EXAMINE YOUR FOODS!

The public is quite generally informed as to food contamination done with criminal intent on the part of persons suspected of being in pay of the German government. Such crimes are just as likely to be committed in New Mexico as elsewhere. Constant vigilance is the only remedy we have, and with the careful cooperation of every one much can be done to meet this form of German propaganda.

All manufactured food that comes into the home from the open market should be carefully inspected before it is used. It is not so likely to contain poison as other harmful substances, because poison is more difficult to obtain and more difficult to administer without being found out.

Ground glass has been found in foods in some parts of the country. Substances like this, that are easily obtained, are more likely to be used than poisons.

Fortunately, ground glass is easily detected even by the inexperienced. By the exercise of a little thought, almost any one should be able to detect it. It feels gritty when rubbed between the fingers. It will not dissolve in water. If shaken in a vessel of water with any ordinary solid food it will settle to the bottom of the vessel. When held in bright sunlight the particles show bright surfaces. A small magnifying glass is an aid in examining these particles.

It should be borne in mind that food that is consigned to the Army is more likely to be contaminated than that which goes to the civilian population. The reason for this is obvious.

Furthermore, it should be remembered that manufactured food is not so likely to be up to the usual standard at present as under normal conditions. It may contain foreign matter that got in by accidental cause. This is more likely to occur now than formerly because of the necessity of using inexperienced help in the factories.

The exercise of constant vigilance and of good judgment on the part of every one will do much towards meeting the new difficulty which the war imposes upon us.

L. A. HIGLEY,
Chemist.

## GETTING VALUE OUT OF CATS AND DOGS

There are estimated to be 100,000 dogs and a like number of cats in New Mexico, a cat and a dog to each four people. Probably 50,000 of the dogs have a value as watch dogs of one sort or another. The other 50,000 have practically no economic value. Of the cats the number that pay for their keep is very small, so we may regard them as almost 100,000 sources of waste. Cats that are fed will hunt very little; cats that are not fed, as a rule, kill more beneficial birds than injurious rodents; so they are worse than waste, they are an actual detriment. Cats are worse destroyers of birds than are hawks. Rat and mouse control about granaries and mills should be based on prevention of the entrance of the rodents. Actual killing of such animals may usually be done more efficiently and with less final expense by means other than employment of cats. However, cats about such places come more closely than any others to earning a living.

Of the 50,000 worthless dogs none earn their keep. They fall into three classes: those overfed and pampered; those whose starved-skin-and-bones appearance testify to their inability to get their own living; and those that prey on domestic animals, sheep especially, and fill their stomachs at an even greater loss to the farmer.

Another very vital reason for reducing the number of these animals and restricting their activities is that they are convicted of being carriers of many kinds of disease of humans and of domestic animals.

In times of peace, perhaps, but not now, can we afford to feed useless animals. For every ounce of food fit for humans given to useless animals, just twice that is taken from our food supply.

The cost to the State per year for feeding these 150,000 worthless animals is great,—even though we think the amount of food supplied them is far below that supplied in other sections of the country. Our great need now is to learn where to save on the things that we used to consider worthless. Our government tells us daily where great quantities of food may be saved from waste. We used to think the dog and the cat should have the meat scraps, bones, etc., from the table. We are told now how to utilize almost every bit of these so-called "scraps."

It is difficult to estimate in dollars and cents the actual amount of such waste of food given to these animals. Some estimates give five cents a day for cats and ten cents a day for dogs. That is likely too high for our animals, on an average. Instead of trying to place a dollar and cents estimate on this waste, let us do this: Every time we feed a dog or a cat, let us figure what that food is actually worth, according to **war-necessity standards,** and let us figure whether that animal can actually prove it is paying for that feed. **If it can not we have no right to feed it.** By all means, let us **not forget** to do this. We have the habit.

Killing animals proven worthless, saves the loss. Their hides are worth something. Their carcasses may be used for fertilizer or poultry food and great good be gotten out of them in this way. By the destruction of the worthless cats many thousands of beneficial birds may be saved and their help in the matter of insect control will be another valuable asset to the farmer.

Finally, reducing the number of marauding dogs will make safe the raising of the much needed small flocks of sheep on the farms of our State. There is a crying need for increased wool production. On nearly every farm feed of various kinds is wasted sufficient to keep a small flock of sheep. For sheep eat forage that other animals refuse, coarse hay, grazing leavings, weeds, etc. They are most valuable in the control of weeds, and, incidentally, of insects on the farm. The worthless roaming dogs that get together in bands at night —curs and pedigreed aristocrats, country bred and town bred together,—forget all civilized teachings if they encounter a flock of helpless sheep. The result is too often a disastrous loss to the farmer with no recourse, for he does not know what dogs did the work and there is no dog-license indemnity for his loss. Even a dog-license indemnity is wrong economics—to foster a source of certain waste in these worthless dogs, and then tax it to pay for waste of still other kinds. Rather abolish these "hounds within our gates," and make the State "safe for sheep."

Let us figure for ourselves the enormous waste per year from this source and turn these worthless animals into fertilizer, poultry, sheep and wool—let us avoid this waste and help meet this crisis facing civilization by providing thus easily more food and more wool. Swat the worthless dogs and cats and so swat the kaiser.

D .E. MERRILL, Biologist.

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(Continued from page 5)

present wholesale price for milk of like quality she would return to the College a net profit of $1.00 each day. Farmers should know their cows,—high producers always return a profit while poor cows are kept at a loss.

J. R. MEEKS,
Assistant Prof. in Charge.

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## ERRATA

The following corrections are made in the March number of the Courier: Page 10—The number in parenthesis in the seventh line from the bottom of the page in Col. 1 should read 80 instead of 88 per cent. In the third line from the bottom of the page in the second column should read, "per hundred pounds of live weight."

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Keep the chicks growing. Be sure they have feed, the best you can procure, green feed, clean drinking water and above all, plenty of shade.

# County Agricultural Agent Notes

## FARMERS FAVOR FARM BUREAU PLAN

### Find County Wide Organizations Necessary if They Are to Receive Greatest Help From the County Agent

When a county is expected to raise more wheat, poultry, hogs, cattle, sheep and all other foodstuffs possible in that county, just what kind of a program is necessary and who is responsible for carrying on the work in order that the best results might be procured. Some will say that the county agent will attend to all of it. This would be absolutely impossible.

Several counties have already begun to realize that it is necessary for every farmer and stockman within the county to take an active part in the program for greater agricultural production. In these counties the Farm Bureau is being developed as rapidly as possible. Just last week Colfax county had a county wide organization meeting in Raton. There were representatives from every community of the county in attendance. These representatives were chosen by the people of their respective communities. At this county-wide meeting an agricultural program was formulated. This program if adhered to and duly executed will result in a very material increase in the agricultural production of the county. This increased production will represent the untiring efforts of every individual interested in agriculture within the county together with the county agent, home demonstration agent and Boy's and Girls' Club workers.

Curry county will soon have a Farm Bureau. Mr. M. R. Gonzalez, county agent, has just completed a Farm Bureau in San Miguel county. In Dona Ana county the Farm Bureau is almost a year old. This organization has worked incessantly from the beginning. The county agent, Mr. Brook, has received splendid cooperation from every member. San Juan and Eddy counties have had Farm Bureaus for some time. Several other counties are doing work along this line at this time.

In every other state in the Union the Farm Bureau idea is growing because it stands for efficiency. Through such an organization the county agent is able to accomplish greater results. The farmers of each community through their representative outline the work that the county agent is to supervise and carry on in the county. These representatives inform their respective communities as to what work is to be carried on in the county. In this way the county agent's work reaches every individual within the county. Otherwise he can only meet a few by means of farm visits and progress is slow. Iowa has the distinction of being the first state to have a Farm Bureau working in every county. The farmers are beginning to feel that it is their patriotic duty to cooperate in an organized way to produce more foodstuffs.

## County Agent Notes

Mr. Leslie Beaty of Corvalis, Oregon, was recently appointed county agent of Otero county and took up his duties there on March 9th with headquarters at Alamogordo, the county seat. Mr. Beaty graduated from the Oregon Agricultural College in 1911 receiving the B .S. degree in Agriculture. Since graduation Mr. Beaty has been farming in Oregon.

Mr. T. M. Pacheco has been appointed county agent of Rio Arriba county with headquarters at Tierra Amarilla.

Mr. Antonio Pacheco has been appointed county agent of Sandoval county with headquarters at Bernalillo.

County Agent Richard Fuller of Chaves county has resigned and is contemplating going into some branch of the army.

### Fight in Furrow if not in Trench

If soldiers are willing to serve in the trenches, to dig ditches, build railroads, and risk their lives, many civilians can well afford to spare a part of their time to serve in the furrows and in the harvest fields.—Secretary of Agriculture.

### Extension Poultry Husbandman

Lewis C. Taylor has arrived at the College, sent here by the Federal Government to work with the poultrymen of the state to the end that more and better poultry and eggs may be produced and a satisfactory market be found for the surplus. He will be glad to take up poultry problems with you either by mail or in person. Write him; he is at your service.

Mr. Taylor comes from Ohio and while new in the Extension service has had years of experience in mating, rearing, growing, showing and judging poultry.

## Home Demonstration Agent Notes

### SOME OF THE HOME DEMONSTRATION AGENTS

**Wilma D. Evans,**
Home Demonstration Agent, Colfax County.

Miss Evans has been Home Demonstration Agent of Colfax County with headquarters at Raton, N. M. since August 1, 1917. With the training and experience that Miss Evans has had in home economics work she ought to undoubtedly do excellent work as a home demonstration agent.

She is a graduate of the Kansas State Agricultural College, having received her B. S. degree in Home Economics in 1909. Since that time she has taught domestic science in Houston, Texas, Goodland, Kansas, and Raton and was also in the employ of the U. S. Indian Service in Oklahoma. In addition to this experience she taught dietetics in the Kansas City Hospital. For two years prior to beginning this work in Colfax County, Miss Evans was in charge of the Domestic Science department of the Raton High School and during the vacations was leader of boys' and girls' club work in that place. Although she has been home demonstration agent but a short time she has already become actively engaged in the problems of the farm women of the county.

**Lucille Woodard,**

Home Demonstration Agent, Chaves County.

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Miss Woodard was appointed as Home Demonstration Agent of Chaves County in September, 1917. She is a graduate of the Colorado Agricultural College, having been graduated with the degree of B. S .in Home Economics. She acted as assistant to the County Agriculturist in Logan County, Colo., having had charge of the boys' and girls' club work and also canning work among farm women. Miss Woodard is very much interested in her work and expects to make a success of it among the women of Chaves County.

Miss Woodard is busily engaged in organizing boys' and girls' clubs of the county, and also rural organizations of the farm women.

# Boys' and Girls' Club Work

## THE NATIONAL CLUB CONFERENCE

The boys and girls, with their Leaders, in the Club Work may be glad to know about the National Conference of State Club Leaders, which convened at Washington, D. C., February 14-20.

At this conference there were State Leaders—one or more—from nearly all of the 33 northern and western states. Many of them had exhibits of Club Work and others gave demonstrations of what they are doing. From South Dakota came the champion canning team of six states. They put on two canning demonstrations which were very fine and interesting. The team was composed of two girls and one boy—all of whom were onto the canning job thoroughly.

The "demonstration team" is to be one of the requirements, this year, of a "Standard Club." Every Club of five or more members is expected to train such a team.

Every Club of five or more members should strive to reach this standard.

After the conference proper was over, the Leaders from several states (including New Mexico) remained in Washington several days for the "Training School" in various kinds of demonstrations. This practice work was conducted in the Club Kitchen connected with Mr. O. H. Benson's office of Club Work, North & West.

Principally, the demonstrations were on "team training," poultry work, canning, drying, equipment, cooking and sewing. We worked early and late in order to get ideas that will be helpful to our boys and girls in the State.

During our stay in Washington there were two Sundays and Washington's birthday. These gave us an opportunity to see the President at church, to go up in the Washington Monument, to visit Mt. Vernon and the Capitol, and a few other places of historic interest.

It might be of interest to the Club Leaders and members to know just what the requriements of a "Standard Club, all of which were accepted. They reported twelve points for a Standard Club ,all of which were accepted. They are:

## A STANDARD CLUB

1. A standard club shall have a membership of at least five working on the same project.
2. There shall be a local club leader in charge during the club year.
3. There shall be a local club organization with the necessary officers and duties.
4. There shall be a definite club year program of work.
5. There shall be held at least six regular club meetings during the club year. The secretary shall be required to keep definite record of these meetings and also of the progress of each member.
6. A local exhibit shall be held annually.
7. There shall be a demonstration team which must give at least one public demonstration in the home community.
8. At least 60% of the members must complete the project and file a final report with the State Club Leader.
9. A judging team shall be chosen by competition between the members.
10. An achievement day shall be held during the club year.
11. The club shall hold a membership in the Farm Bureau or other County Club organization.
12. When the first four requirements have been met a standard Club charter will be issued. When all the requirements have been met, a National seal of Achievement will be awarded

W. T. CONWAY, Club Specialist.

## SHORTAGE OF FARM AND RANCH HELP PROBABLE

As a rule agricultural communities in New Mexico are not located near large industrial enterprises. Yet the mines and coal fields with their high wage scales still draw away the common labor of the farms.

The separation and isolation of the farmer in the past has made him very individualistic. When it comes to managing his farm and handling his help he has preferred to do his own bargaining. Today, however, the automobile and the telephone are bringing the farmers closer together and the efficient and economical use of farm help has been given more consideration the past year than ever before

The State College, cooperating with the Bureau of Farm Management, U. S. D. A., is giving attention to this important phase of farm management. The change and rearrangement of methods prevailing heretofore will tend to make the laborer on the farm more contented and better satisfied, and the work more desirable. The farmer will be reciprocally benefitted.

Because of the drain by the Government on man power, the labor question has become a vital one among farmers of New Mexico. Many feel, however, that by cooperation among the people the necessary labor on the farm can be handled. Communities are beginning to plan in advance for their needs, and, by working through the County Agent, their Farm Bureau, or other similar association, expect to minimize any labor shortage.

Every farmer, stockman, and business man should take the farm labor question in hand and talk about it on every occasion for the purpose of unifying the interests of those concerned and for the efficient handling of available labor.

J. O. MILLER,
Farm Help Specialist.

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# THE NEW MEXICO FARM COURIER

VOL. VI. MAY, 1918 No. 6

*The toil, the intelligence, the energy, the foresight, the self-sacrifice and devotion of the farmers of America will, I believe, bring to a triumphant conclusion this great last war for the emancipation of men from the control of arbitrary government and the selfishness of class legislation and control, and then, when the end has come, we may look each other in the face and be glad that we are Americans and have had the privilege to play such a part.*

—President Wilson.

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AUSTIN D. CRILE, President of College.
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY, Director of Extension.

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W. T. Conway ,Canning and Drying.
Elizabeth Koger, Assistant Leader.
Gertrude Espinosa, Assistant.

#### County Home Demonstration Work.

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Lura E. Dewey, Asst. Leader, State College.
Lilian Randall, Asst. Leader, State College.
Bertha Becker, Dona Ana Co., Las Cruces.
Lucille Woodard, Chaves Co., Roswell.
Wilma D. Evans, Colfax Co., Raton.
Mrs. J. T. Stalker, Curry Co., Clovis.
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Sarah Van Vleck, Valencia Co., Belen.

# EDITORIALS

## SOAP WEED

(By A. D. Crile)

The State College has carried on a very careful experiment in the feeding of yucca—commonly called soap weed—and sotol. The plants have been cut in a cutting machine made for this purpose, of which there are several makes on the market. These plants have been fed in large troughs. Some cattle had cottonseed meal added, and others had nothing but the yucca and sotol. Those that had cottonseed added to the yucca have made splendid gains, and those that were fed without the addition of cottonseed have maintained their weight and have improved in appearance and vitality. The feeding of these plants is no longer an experiment. We have well established that it is a success.

The idea prevailed that the feeding of these plants would disarrange the stomach or digestive tracts of the animal. On the Jornada Range Reserve in Dona Ana county, Mr. Turney fed two steers eighty to ninety days exclusively on soap weed and cottonseed meal. Both steers have been killed and were very carefully examined by the College nutrition chemist and veterinarians, and they found the digestive tract in a most healthful and normal condition. The meat was of splendid flavor and good texture.

We have conducted experiments on maintenance of stock, and on the fattening of stock as well; and, after a long period of feeding, by killing and making a careful examination; it has proved to be successful in all respects. This should mean the saving of thousands of cows on our ranges.

For information concerning the details of the food values and the feeding of yucca and sotol, we invite inquiry.

## THE THIRD LIBERTY LOAN

(By A. D. Crile)

New Mexico has shown her patriotism by subscribing freely to the third Liberty Loan. This is only what we, of course, expected; because New Mexico has given her sons freely, and this is the great consideration. For our dollars we give, and they never suffer. Our sons we give to suffer, be wounded, and to die, that our government may live.

New Mexico will also be enthusiastic in raising foodstuffs, that none of our boys, none of the boys of our allies, no mother, or child, shall suffer from hunger. Either we must "go on or go under," as Lloyd George said. We are far removed from the manufacture of ammunition, but we are doubly well situated to increase our farm production, because of the great areas of land and by improved methods of planting and harvesting.

## VICTORY ON A TRIPOD

(A. C. Cooley, Director of Extension.)

Victory rests upon a tripod, the legs of which are man-power, food and money. Each leg is of equal importance; the weakening of one means the weakening of all, and the failure of one to support its part of victory's weight means the failure of all, and thus the fall and loss of victory.

The leg, Mr. Farmer, for which we are directly responsible, is that of food. Now let us make sure that nothing is allowed to weaken it in any way, but on the other hand see to it that it is made stronger than ever. That our winter wheat crop is a failure is a great disappointment, but we cannot allow this to discourage us,—our armies must have food, and that is the farmers' business and responsibility to see to it that they have it, and have plenty. With the winter wheat crop gone, it is more necessary than ever, not only that the land planted last fall to winter wheat be re-planted to something else, but that an extra effort be put forth to see to it that every acre of cultivated land ,where moisture is sufficient, be planted and made productive to the utmost. This is not a time to worry about the price our products are going to bring next fall. FOOD MUST BE PRODUCED AT ANY PRICE. How much profit there is in it is not the big question. If our boys at the front are willing to give "THEIR ALL" for freedom and democracy, then the least we can do is to produce the necessary food at any price, whether it be at a loss or at a profit. Remember every idle acre contributes to the kaiser's cause. A larger increase in the acreage of Pinto beans, corn and the sorghum crops, should be urged in every place. These crops, in many sections of the state, (with the exception of Indian corn) can be planted as late as July 1st, and still mature. Corn meal and the sorghum flours (milo, kafir, feterita, etc.) are very important as wheat substitutes, therefore they should be produced in large quantities. For the cause of humanity and the freedom of the world, it is every farmer's patriotic duty to plant every acre he can from now until July 1st in Pinto beans, Indian corn and the sorghum crops.

## Keep Your Windshield Clear.

When driving an automobile in stormy weather considerable annoyance is caused by moisture collecting upon the windshield. The Studebaker Service gives the following mixture applied to the windshield with a piece of soft gauze or soft cloth, strokes downward, as effective:

"To one ounce of water and two ounces of glycerine add one dram of salt."—Fred G. Person, Colorado Agricultural College, Fort Collins, Colo.

# Livestock

## SILOS.

The silo, if properly used, would constitute the best insurance against a drouth and a feed shortage for the dairy and stock men of New Mexico.

Throughout the state we hear the expression almost daily from these men that they would consider the building of a silo were it not for the fact that it is too dry some years so that they are not sure of having enough feed to fill a silo. Others say that they can not grow corn so would have nothing to fill a silo, in case they had one. County agents in different parts of the state report hearing these same complaints.

These two reasons which are most frequently given as causes for not having a silo are the two most important reasons why all live stock men should have a silo. If there was plenty of rain, hay and feed sure and plentiful, then the silo would not be such a necessity. The farmer and stockman should use the silo to store his forage like the farmer in the corn belt uses the corn crib to store his corn. The stockman has the advantage in that he does not need necessarily wait until his crop fully matures before harvesting and storing, and if properly put away the silage will keep as long as the corn in a crib without deteriorating.

This last winter should prove an object lesson to many of those that were unable to secure feed to keep their stock through the winter. The stockmen who had silos of their own or were able to secure silage were able to bring their cattle through the winter without difficulty. In most cases the silage was supplemented with cotton seed meal. Farmers who built silos this last fall were able to dispose of the silage at from $10.00 to $15.00 per ton at the silo. The silo should be made the store house for forage until it is needed whether it be one or more years.

The question of the crop to grow for the silo depends entirely on the local or individual conditions. Most any kind of crop will be better feed when fed in the form of silage, than when cured and fed dry. Any crop that contains sufficient moisture will make good silage. In western Kansas and eastern Colorado the Russian thistle is used quite exclusively for silage. The sorghums, kafir, milo, oats, and peas, wheat, oats, rye or barley can be put in the silo. In the higher altitudes where the grains frequently are frosted, they can be successfully and profitably turned into the silo and used as a first class feed in the form of silage.

Professor Reed of the Kansas Agricultural College, after two years experiments with the comparative value of corn, sorghum, an dkafir as silage, reports, "Corn silage is slightly superior to either cane or kafir silage as a milk producer. Kafir silage ranks second as a feed for cows. Cane silage ranks third as a milk producer. In both trials the cattle gained in live weight on cane silage more readily than on either silage made from kafir or corn."

Professor Reed also reports that last season the majority of silos in the western part of Kansas were filled with cane or kafir, whereas a few years previous few if any silos were filled with this crop.

The silo is a permanent improvement that will insure good feed, enhance the value of your farm land, produce economical gains on your cattle, encourage the keeping of a better quality of livestock, permit the feeding of more roughage and thus release more grain for human consumption. Build a silo, make your business more profitable and help whip Kaiser Bill.

JOHN E. WATT,
State Dairy Agent.

## PRESERVE EGGS AT HOME FOR THIS WINTER

Eggs are preserved by one of two principles, cold storage or by excluding air from within the shell by sealing the air pores of the shell. The first method is used only by large packing concerns. The latter method may be employed in any home to preserve eggs produced in the spring and summer for winter use.

Waterglass (sodium silicate) solution, or lime water may be used.

### Waterglass Method

One part of waterglass to 10 parts of boiled water (cooled) is best. Select clean, unwashed, fresh and preferably infertile eggs. Pack them in a jar or small keg, not to exceed 20 gallons capacity on account of the danger of breakage. Place keg in a cool, well ventilated place where it will not be moved before the eggs are to be used. Pour enough of the solution over the eggs to cover the top about one inch. Cover the receptacle to prevent evaporation, and see to it from time to time that the eggs are all covered. The lime water method is not as satisfactory as the waterglass method.

### Lime Water Method

Use 5 gallons of boiling water to about 3 or 4 pounds of stone lime. Let the solution cool and add about one ounce of salt. Syphon or pour off the clear liquid after the lime has settled, and use this in the same way as the waterglass solution.

Eggs preserved by either of these methods will be fit to use any way that fresh eggs are used. To boil waterglass eggs prick the shell at the large end with a needle before boiling. A simple way to prevent evaporation is to see that the liquid covers the top of the eggs at least two inches; then carefully pour enough lubricating oil on the solution to form a thin film of oil over the entire surface.

R. B. THOMPSON.
Poultryman

## CARE OF THE NEW BORN

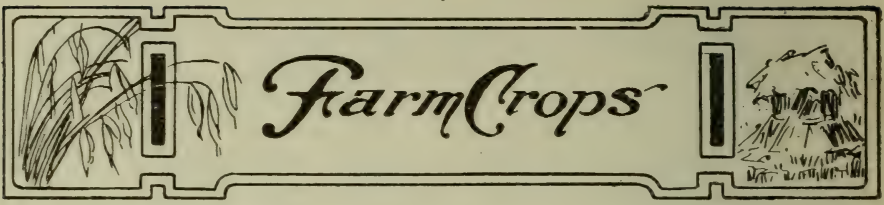
It must be remembered that the new born animals (for a time at least) depend on their mother's milk for nourishment. We should see that the mother is in good physical condition in order that she be able to care for her progeny. If a new born animal be stunted the first few weeks of its life our efforts to produce the "physically perfect" are lost.

As soon as the colt or calf is born the navel should receive immedaite attention. Dissolve one tablet of bichloride of mercury in one pint of distilled or boiled water (1 in 1000 sol.) and treat the navel several times, and after this is accomplished the tincture of iodine can be used, or a good astringent dusting powder made of:

Carbolic acid ½ ounces,
Boracic acid 6 ounces.
Camphor ½ ounce.
Alumen 9 ounces.

Remember, it's through the open navel that the infectious agents gain access to the body. It is estimated that 25% of all the colts in the United States are lost in this manner. Does it pay to disinfect the navel?

E. P. JOHNSON,
Extension Veterinarian.



# Farm Crops

## CORN SMUT.

Mr. John Doe of Cornville, New Mexico, writes to the New Mexico Experiment Station as follows:

"Dear Sirs:

"I should very much like to know what treatment to give seed corn to prevent smut. Much of our corn was affected last year."

The following is the answer that Mr. Doe got to his letter:

"Mr. John Doe,
Cornville, New Mexico.

"Dear Sir:

"In reply to your communication of recent date, will say that corn smut cannot be prevented or controlled by soaking the seed in fungicides, as is the case with oats and barley smuts and the stinking smut of wheat.

"This is due to the fact that the infection takes place after the plant begins its growth, and does not result from the spores being present on the seed. This disease lives over on the infected stalks or ears, producing spores abundantly next spring to infect the new crop.

The only remedy is to go through the field and cut out and destroy by fire all of the diseased plants and ears before the smut boils have matured and bursted. However, in many cases the expense of this treatment will make its use inadvisable. Crop rotation will help to control corn smut; in other words, it is usually best not to follow corn with corn. If your corn is planted on land free from smut you will not have so much trouble with this disease.

"Yours very truly,
"RUPERT L. STEWART,
Agronomist."

## SUDAN GRASS.

The New Mexico Agricultural Experiment Station has been conducting a series of tests for the past three years with Sudan grass in an effort to determine its suitability as a hay crop and as a pasture grass for the irrigated valleys of the state, and to determine if possible the best cultural methods for this crop.

Although in the majority of cases alfalfa seems to be particularly well adapted to a large part of this state where irrigation is practiced, the demand has been great for a crop that would produce a large quantity of hay, rich in feeding value, that does not contain such a large percent of protein as does the alfalfa, so that these two crops might be fed as a mixture to dairy cattle, and in this way eliminate the objectionable feature of feeding a roughage so high in protein.

Sudan grass is very palatable and nutritious, and is very similar to timothy in this respect. The results of the three years' work with Sudan grass will soon be off the press as Bulletin No. 111. Some very interesting things are brought out in this bulletin. Sudan grass, although being considered very drought-resistant, apparently cannot be depended upon to produce a crop where the annual rainfall is less than ten inches.

The Station made an effort to determine whether or not Sudan grass could be produced in this part of the state without irrigation, and the results indicate that there is not sufficient moisture during the growing season here to produce a crop. Although Sudan grass is not a cool climate plant and is injured by frost, the moderately early plantings gave the highest total yield, but it is interesting to note that this grass planted as late as July 16 gave a three-ton yield. This is a particularly interesting feature in view of the fact that it can be used successfully as a second crop; in other words, it can be planted after wheat harvest and a fairly good yield of hay be secured.

Broadcasting and seeding in rows were compared ,and the results indicate that there is very little difference in yield from these two methods of seeding. In the dry farming sections of the state, however, it is probably advisable to plant in rows so that the crop can be cultivated, thus keeping down weeds and conserving moisture. Wherever the grass is to be grown for a seed crop, better results are secured by planting in rows.

In a rate of seeding test it was found that where the grass was seeded broadcast, 20 to 25 pounds of seed per acre gave the greatest tonnage, and that plats planted at the rate of 4 pounds per acre in 32-inch rows have higher yield than those planted at the rate of 2.5 pounds in rows.

RUPERT L. STEWART,
Agronomist.

## MOST OF 1917 CROP OF PINTO BEANS SOLD

According to information from the Denver office of the U. S. Food Administration Grain Corporation, Pinto Bean Division, the bean campaign is progressing satisfactorily. Orders have been received to date for 661 cars. Orders have been placed with shippers for 512 cars, and at this time there are 418 cars in transit. The principal markets to which these cars are consigned are Boston, Philadelphia, New York, Chicago, St. Louis, Kansas City and Indianapolis.

The efficient advertising of the Pinto bean by the Food Administration has resulted in a satisfactory market for future crops, and growers are arranging to plant a larger acreage this year. To assist the growers in securing choice, recleaned, selected seed, true to type, the Food Administration has placed eleven cars of seed at various points.

In New Mexico one car has been placed at Clayton, one at Las Vegas, and one at Willard.

Growers can buy this seed in one hundred pound lots or multiples of one hundred. Cost will be **$9.00** per hundred, **f. o. b. shipping point.** If seed is to be shipped considerable distance and the grower desires double sacking, he should remit 30c extra for every one hundred pounds ordered.

All orders must be accompanied with draft or money order in favor of the U. S. Food Administration Grain Corporation. If post office is not shipping point, the name of shipping point should be given.

The distribution of the stored seed will be handled through the Bean Division of the U. S. Food Administration at Albuquerque, or through the county agricultural agent. All orders for shipment from these cars will be handled by either of these agencies, and no others can be considered.

Farm bureau organizations are nearing completion in several counties.

## PLANT ENSILAGE CORN EARLIER

Where only home grown seed corn is planted, it is proper practice to put the latest maturing corn into the silo. It is an expensive mistake, very generally made, to plant the ensilage corn last. This year especially it should be planted first. The small supply of home grown seed in the northern states should be supplemented with strong germinating ensilage seed from further south. This ensilage seed should be planted several weeks earlier than the home grown seed.

### Early Planting Causes Earlier Maturity

After several years of testing, the Office of Corn Investigations has established the following fact which should be utilized by dairymen and ensilage corn growers of the northern states. When large ensilage varieties from Virginia or Missouri, for example, are planted in the northern states late in May, they make a rapid, long jointed, tender, succulent growth and are so green when fall frosts occur, that they make ensilage which is sloppy and too sour. But when planted very early in May they make a slower, hardier growth, better withstand spring frosts and summer droughts, reach a more advanced condition of maturity and produce more grain than when planted later. Fall frosts, not spring frosts, are to be feared.

Early maturing, home grown varieties do not need and are not benefited by unusually early planting, but ensilage varieties are benefited. Though dwarfed and ripened by the early planting, the large ensilage varieties will by nature make ample stalk growth and a richer, sweeter silage because of being planted early. It supplies the days they need for maturing.

### Early Cultivation Warms the Soil.

Although by the fourth of July, June planted corn may be as large as corn planted in early May, when fall frosts occur it will be composed mostly of water and not in as good condition for siloing as corn planted early in May. The early planted corn requires early and frequent cultivations to warm and dry the soil surface. In the northern states if the soil surface in May is wet it is also cold, and the corn cannot grow. Stirring causes the surface to dry rapidly, absorb heat, feel warm to the hand, and the corn will grow; while uncultivated soil nearby will be cold and the corn at a standstill.

Test your seed corn. Splendid stand, no replanting, no waste land. Farmers' Bulletin 948.

C. P. HARTLEY,

In Charge of Corn Investigations, U. S. Department of Agriculture.

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### How Fast Are We Dying?

Life insurance companies have gone far in figuring mortality rates, periods of expectancy, etc. Of course it can be figured out just how long you and I (based on the law of averages) may expect to live. From a well-known life insurance company the following interesting data is secured: "The population of the world is about 1,623,300,000. The average age at death is 33 years. Every year there are 57,372,727 deaths. Every week 908,516 die and 5,308 every minute. About three die every two seconds and about 60 have died while you were reading this item." Colorado News Notes.

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County agent reports indicate that the U. S. Biological Survey and the State Council of Defense are receiving excellent co-operation from the farmers and stockmen over the state in connection with the prairie dog eradication campaign. The county agents are taking an active part in this campaign.

# Fruits & Truck

## PLANTING NEW MEXICO PINTO BEANS

**By Irrigation.** Beans, like many other vegetables, can be grown on almost any kind of a soil, provided special care is taken to the germination of the seed and the cultivation of the crop. As a rule, however, the best soil for beans is of a light character, from a loam to a sandy loam. An adobe, or hard clay soil, is to be avoided when possible. The tighter soil requires a great deal more care to get a good stand, and more cultivation. Therefore much attention must be given to proper germination of the seed.

Under irrigation bean growers frequently fail to get a good stand. This may result from the soil having been a little too dry at the time of planting; or, if the beans are "irrigated up," the soil may have baked too much, or it may be the seed was planted a little too deep.

Moisture is one of the limiting factors in getting a good stand and a good yield. Beans may be planted in a dry or a moist soil. In a moist soil they may be plowed under, as in the old native practice. The weeds are broken down, raked up in piles and burned. The borders are plowed for control of the water while irrigating the land. The land is then irrigated to add moisture for germination. As soon as the soil is dry enough so that the plow will scour, the land is plowed, usually with a small plow. The beans are dropped in the furrows and covered as the land is being plowed.

Three or four beans are dropped in hills 8 to 12 inches apart, or in a continuous row. The distance between the rows varies in width from 3 to 4 furrows, which is equivalent to about 2 to 3 feet. The rows must be straight in order properly to cultivate them during the summer. After the beans have been plowed under, a tooth or an acme harrow is run over the land. In plowing beans in, better germination may be had if they are not over 3 or 4 inches in depth, though fair resplts in loamy soil may be expected from a 5-inch depth.

Another way of planting beans after the land has been irrigated is to run an acme harrow over the surface as soon as the soil is dry enough to permit of this operation. This will destroy many of the little weeds that may be coming up. Immediately after the acme is run over the land the beans should be planted with a bean planter, at 3 to 4 inches in depth, which will put them in moist soil. If the acme is not run over the surface before planting this can be done afterwards; and in some cases this is preferable. This is faster work than when the beans are plowed under.

The dry method of planting beans consists in thoroughly preparing the seedbed, then in drilling or planting the seed; next, in irrigating, usually flooding the land, to produce germination of the seed. The important feature is the irrigation to produce germination. Care must be taken that the beans are not planted to deeply, or else a large percentage of them will not be able to break through the crust which is usually formed on the surface when the land dries. After irrigating the beans, to produce germination it is well to run a tooth harrow over the land in order to break the crust. When beans are "irrigated up," they must not be planted quite so deeply as when they are planted in moist soil. Under irrigation it usually takes from 25 to 35 pounds of seed to the acre.

**By Dry Farming.** Under dry farming conditions, where the farmer is dependent on rainfall, bean growers should exert every effort to conserve all the moisture possible, taking advantage of all of the natural conditions and planting the beans at the time when they can get the most good out of the moisture in the soil, provided, of course, it is not too late in the season for the crop to mature. Under dry land conditions it is of the utmost importance to catch and conserve all of the moisture possible in the winter and spring. The practice should be, wherever the soil and climatic conditions are favorable, to plow the land in the fall, winter or early spring. Of course, where land is in danger of drifting or blowing away after it is plowed it would not be advisable to plow it until the time of planting comes. It is now considered that the fall or early winter plowing should be quite deep, probably 8 to 10 inches, while the spring or summer plowing should, as a rule, be somewhat shallower. The land, whether fall, winter or spring plowed, should be disked and harrowed and smoothed before planting.

The beans may be planted with a bean or corn planter, grain drill, lister, or may be dropped by hand in a furrow. Occasionally beans are planted by listing them in, either on plowed or unplowed land. This is a poor practice except on soil that cannot be plowed on account of blowing. Under dry farming, it is well not to plant too thickly. Probably from 3 to 3½ feet between the rows is a good distance. From 10 to 20 pounds per acre is a safe amount to plant.

The date of planting varies with the locality and the altitude, as well as with the moisture in the soil. For this reason beans may be planted from early in the spring to late in July. The thing to keep in mind is that they should be planted early enough so that the crop may matre before frost comes. As a rule, under normal conditions the later plantings will take from 80 to 90 days for most of the beans to ripen properly. The earlier plantings, particularly under irrigation, may take, in some cases, a little longer to mature. By knowing about when the first killing frost may be expected in the fall the grower will be able to know the approximate latest date that the planting may be safely done. Under dry farming frequently the planting is delayed considerably on account of the rains coming late in the season.

The germination of the seed under dry land conditions is as important as it is under irrigation. If there is not enough moisture at the time of planting the beans must depend upon subsequent rains to bring them up. The longer they lie in the dry soil the greater the chances are for poorer germination. Consequently, it is important that advantage be taken of the soil moisture at the proper time.

Subsequent irrigation and the cultivation of beans both under irrigation and dry farming will be treated in a later article.

FABIAN GARCIA.

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## BEAN GROWERS' ASSOCIATION.

The Extension Service is undertaking to organize the bean growing interests of New Mexico for the purpose of making that very important crop return to the growers the full measure of profit. The objects sought through organization are, standardization of varieties and grades through seed selection and uniform high class cleaning facilities; increased consumption by judicious advertising, and a better feeling on the part of wholsalers, jobbers, retailers and consumers to be brought about by marketing under trade mark registered brands, uniform high grade, clean, desirable beans.

A meeting of growers from all parts of the state is soon to be held at Albuquerque for the purpose of perfecting the state organization, after which the growers in all bean producing centers will be asked to get together and organize local associations in conformity with the state association and to be a part of it.

The organization work is in the hands of C. A. McNabb, field agent in marketing, who for several months has been making a study of plans followed by other states in handling bean crops. Mr. McNabb is serving the farmers and ranchmen of New Mexico as a joint representative of the Bureau of Markets, U. S. Department of Agriculture and the State College, with headquarters at the College.

Interested parties are requested to communicate with him, and it is hoped that all organization work may be completed in time to care for the marketing of the 1918 crop.

## "To Dealers and Consumers—Concerning Pinto Beans"

"The United States Food Administration, having carefully tested the pinto bean in comparison with the navy, announces that the pinto is equal in food value, and flavor to the navy. Not being known in consuming centers, and because of an unreasonable demand for white beans on the part of the general public, the pinto is now selling at from 5 to 8 cents per pound less than the navy.

"Western growers of pintos raised nearly 3,000,000 bushels in 1917—a 300% increase in production over 1916. 75% of this enormous crop is still in the hands of the farmers. Because of the intrinsic value of the pinto as a food product, and the present low price at which it can be obtained, the Food Administration is urging the consuming public to eat more of these beans. The pnito is a most excellent substitute for meat. A greatly increased consumption on the part of the public will help save meat, lower the cost o fliving, and aid growers to dispose of the great crop produced last year. It is essential that the growers find a ready market for their beans, at satisfactory prices, in order that the acreage for 1918 may be increased.

"Inquiries in regard to lealers, prices, supplies, etc., should be addressed to the Bean Section, Canned Foods Division, Uinted States Food Administration."

"U. S. Food Administration."

## ARSENATE OF LIME A SUBSTITUTE FOR ARSENATE OF LEAD

The present high price of arsenicals has made it desirable to find substitutes for some of the materials formerly used. Paris green is very high in price and arsenate of lead rising.

Arsenate of lime is recommended by the United States Department of Agriculture for use in some measure in place of arsenate of lead and Paris green. It may be safely used on foliage of pear, apple and hardy plants but is not yet advised for foliage of stone fruits and delicate plants because of danger of burning.

Arsenate of lime powder is used at the rate of ¾ pound to 50 gallons of spray, either water or bordeaux mixture. If only water is used, add, for each 50 gallons, the milk of lime made by slaking 3 to 4 pounds of stone lime. The price of powdered arsenate of lime per pound ranges from about 24 to 28 cents. Powdered arsenate of lead ranges from about 35 up to 40 cents per pound. Since the former is used at about one-half the strength of the latter, a considerable saving is effected by its use.

In powdered form arsenate of lime may be purchased from General Chemical Co., New York City, or Gasseli Chemical Co., Cleveland, Ohio. In paste form it may be made up as follows: Dissolve 10 lbs. of sodium arsenate, the fused, dry powdered form containing 65% arsenic oxid, in a little hot water. Add to this 5½ lbs. of quick lime, 90% pure, to start slaking. As needed in the slaking add water until 2½ gallons are used, including the amount used in dissolving the sodium arsenate.

This makes 35 lbs. of paste, testing about 18% to 20% arsenic oxid. Use 2 lbs. of the paste to 50 gallons of water or bordeaux mixture. If used with water only, add the milk of lime as directed for the powder.

D. E. MERRILL,
Biologist.

## G. P. A. TELLS HOW TO CONTROL ENGLISH SPARROWS

Albuquerque, N. M., May 10.—The best known methods of preventing English sparrows from damaging war gardens are given in the following directions issued by the New Mexico Game Protective Association:

1. Scarecrows: Strips of white rag hung from strings are only temporarily effective. A much better scarecrow consists of a shiny tin lid punctured at the edge and hung by a light thread from a stick thrust slantingly into the ground. The wind revolves the tin and "flashes" the sparrows away.

2. Dead sparrows: A still better scarecrow is a dead sparrow hung swinging from a string. This is quite effective.

3. Box trap: A box with a screen top, held up under one edge by a prop removable by a pull of a thread, is the best trap. Bait the sparrows regularly under the trap and then pull the thread when a good number are assembled. This is said to be more effective than any automatic trap, and has the advantage of allowing the removal of other harmless birds that may be caught.

The G. P. A. urges that poison grain be not used on account of the danger to children, fowls, and beneficial species of birds.

### Uncle Sam's Ten Commandments

President Wilson has signed a bill which takes its place in history as probably the most liberal legislation in protection of a nation's fighters ever placed upon the statute books of any country. It is good enough and strong enough to he called the National Ten Commandments, and can be set out as follows:

Thou shall not evict, for non-payment of rent, a soldier's dependents under penalty of $10,000 fine.

Thou shalt not cut off a soldier's life insurance because of deferred payments.

Thou shalt not foreclose a mortgage on a soldier's property.

Thou shalt not sell a soldier's property because of his failure to pay the taxes—national, state or local.

Thou shalt not settle a lawsuit against a soldier during his absence.

If a soldier sue, the courts shall postpone action until he attend to it.

If a soldier have a mine, or timber or farm claim, assessments on which are overdue, it shall be held for him.

Honor thy soldier and thy sailor that thy days may be long in the Land of Liberty.

No man hath greater love than he that offereth his life for the world's sake, and it is commanded that neither lawyers nor the loan-sharks nor the gatherers of taxes shall fatten on him.

Congress is content to call this bill the Civil Rights Bill.

It is the Divine Rights Bill.—El Paso Times.

The newest fighting corps in Minnesota is composed of potatriots. Its purpose is to spud the kaiser.

Felix Garcia, formerly in the employ of the Bureau of Entomology, U. S. D. A., has been appointed assistant county agent and assigned to San Miguel and Mora counties. Mr. Garcia is from San Antonio, Texas.

A. C. Heyman assumed duties as county agent of Luna county with headquarters at Deming, on April 15. Mr. Heyman was formerly principal of the Rio Grande Industrial School at Albuquerque.

Comfortable living is more to be desired than luxury. Farmers seldom have great riches or live in splendor but they may live comfortably and enjoy life as no other class. It is their privilege to supply their homes with such things as make life a pleasure and not a burden.

The total amount of foodstuffs shipped during March from the United States and Canada to the allies, according to the Food Administration, was about 1,100,000 tons, compared with 750,000 tons in February.

When you give up an ideal be sure you set up another in its place.

# Home Demonstration Agent Notes

## YUM YUM—SYRUP AND POTATO MUFFINS.

Make your own syrup from the sugar beets you raise in your own garden. It's so easy to do and the syrup is so good. It's just this way.

Produce good sugar beets. Start now, plant them in your garden with well prepared soil and good seed. Keep down the weeds and keep up the irrigation.

In the fall, harvest the beets, wash them clean, using warm water and a scrubbing brush, then cut off the crowns and slice the remainder of the beets very thin. Pour over them boiling water to cover. Cover closely and let stand for one hour on back of stove.

Drain off the water, strain through several thicknesses of cheese cloth or through absorbent cotton, boil and skim until syrup is of the thickness desired. Isn't that easy?

Does the yield pay? Yes. With beets of from 16 to 18 per cent sugar the syrup yield will approximate one eighth the weight of the beets, or in other words, one pound of sliced beets will produce approximately 2 ounces of syrup of a density or thickness suited to most table needs. Try it. Seeing is believing.

Beet syrup is good with muffins or hot cakes. It can be made to taste like maple syrup by the addition of a few drops of Mapleine or can be given the flavor of corn syrup by mixing it half and half with any good brand of corn syrup.

Try it with potato muffins.

### Potato Muffins.

3 c. mashed potatoes.
1 c. corn starch.
3 eggs.
1 tbsp. fat (vegetable fat preferred).
1 tsp. salt.
3 tsp. baking powder.

If potatoes are very dry add a little milk. Mixture should be somewhat stiffer than a wheat flour muffin mixture.

(Edited by Tura A. Hawk, Home Demonstration Leader.)

## HINTS ON HOW TO SAVE SUGAR.

(Lura Edna Dewey, Emergency Home Demonstration Agent.)

Fill the sugar bowl, but keep the cover on so that no one will carelessly use it. Tag the bowl with the date, and let the children keep account how long it lasts. Choose a sugar spoon half as large as the old one, and let the children have a spoonful, but go without yourself. Put the children on the French ration, which is less than one ounce a day—about two level tablespoonfuls or one half pound a week. Allow them only that much and let them eat it as they wish all for breakfast or divide it between the other two meals. Another plan adopted in hospitals, dormitories and private boarding houses is to tag the sugar bowls with the words, "Who is patriotic?"

Put fruit instead of sugar on cereals. All fruits contain a large percent of sugar. Learn to enjoy the natural flavor of foods. Do not drink tea or coffee, this not only reduces the amount of sugar used but also relieves the shipping situation.

Omit sugar frostings on cakes. Reduce sugar in recipes one-third to one-half. Use what our grandmothers did instead of sugar—viz, molasses syrups and honey.

The amount of sugar saved in these ways is surprising. A teaspoonful of sugar saved each day makes five pounds a year. A lump of sugar saved each day also makes five pounds a year. In a few days the limitations do not seem a hardship. Explain to every one that sugar is our ammunition in this war. It is the gunpowder we can all contribute. If we can't fire a shot, we can send a pound of sugar.

## SAVE THE BABIES.

(Lilian Randall, Emergency Home Demonstration Agent.)

Of the one hundred thousand babies to be saved in the United States during the "Children's Year" which began April 6, the quota for New Mexico is 425 It is believed that this number can be saved in spite of the withdrawal of many doctors and nurses for war service.

The methods are as follows:

First: The registration of births so that there may be an immediate record of every child born; and nursing and medical skill may be provided wherever the family income does not permit its being secured independently.

Second: For every mother prenatal care, care during confinement, and after care.

Third: Children's conferences where well babies may be taken for weighing and examination, and clinics for sick children.

Fourth: Organization of state and city divisions of bureaus of child hygiene.

Fifth: Guarding the milk supply that every child may have its quota of clean, pure milk.

Sixth: An income making possible decent living standards.

The primary feature of the Children's Year" is to be an examination with reference to weight and height of the children of pre-school age.

# Boys' and Girls' Club Work

## WHERE IS YOUR COUNTY IN CLUB WORK?

Fourteen counties within the state have made arrangements for paid leadership in Boys' and Girls' Club Work. Colfax county has, up to the present time, provided the most complete system of supervision for its boys and girls in their campaign for food production and conservation. Practically every community has a paid local leader. Leading citizens throughout the county have volunteered to give a part of their time free of charge to work under these paid leaders. The parents of the club members are being interested in the work of their children by means of letters, public meetings, newspaper articles, personal visits, and church announcements.

On April 16, there were 588 club members enrolled within the county and the enrollment campaign was not completed.

How many club members have you in your county? Colfax county has set a minimum enrollment of 700 club members for 1918.

The following extracts from articles published in the Raton Range will show how this county is taking hold of the work:

April 9, 1918: "Boys and girls who complete the work outlined for them will perform a valuable and patriotic service to their country and at the same time make a fair profit for themselves."

April 16, 1918: "Will you help us? (We surely will.) Help the boys and girls! Watch our club enrollment. Watch the number that complete the work in Colfax county. Let our motto always be, 'The best club county in the state, and the best club state in the Union.' "

CHARLES ORCHARD SMITH.

Note: The Courier would like to describe the work being done in other counties of New Mexico in future issues.

## TRAINING SCHOOLS FOR BOYS' AND GIRLS' CLUB LEADERS

The first of a series of training schools for club leaders in New Mexico was held at the State College during the week of April 22—27. Those present at this meeting were the state club leaders, the county leaders from Dona Ana and Bernalillo counties, and local leaders from Dona Ana county. The following program was carried out:

President Austin D. Crile and Director Cooley addressed the training school during the week.

**Monday, April 22—Morning Session—Cooking**

Mrs. Elizabeth C. Koger presiding, Home Economics Kitchen.

9:00 I. Questions on Bulletin and Record blanks.

9:00 II. Demonstration followed by questions and trials by others.

10:45 III. Recreation.

11:10 IV. Judging instructions and contest.

11:45 Lunch.

**Afternoon Session—Poultry.**

R. B. Thompson presiding, College Poultry Farm.

1:00 I. Questions on Bulletin and Record Blanks.

1:30 II. Demonstration followed by questions and trials by others.

2:45 III. Recreation.

3:30 Preparation for next day.

**Tuesday, April 23—Morning Session—Gardens.**

W. T. Conway presiding, Home of Mr. Conway.

9:00 I. Questions on Bulletin and Record Blanks.

9:30 II. Demonstration followed by questions and trials by others.

10:45 III. Recreation.

11:00 IV. Judging instructions and contests.

11:30 Lunch.

### Afternoon Session—Pigs.

Clave Humble presiding, College Pig Pens.

1:00 I. Questions on Bulletin and Record Blanks.

1:00 II. Demonstration followed by questions and trials by others.

2:45 III. Recreation.

3:00 IV. Judging instructions and contest.

3:30 Preparation for next day.

### Wednesday, April 24—Morning Session—Field Crops.

Prof. Fabian Garcia, presiding, Agricultural Building.

The same order as on previous days was followed.

### Afternoon Session—Sewing.

Miss Gertrude Espinosa presiding, Home Economics Sewing Room.

The same order as on previous days was followed.

### Thursday, April 25—Morning Session—Canning and Drying.

W. T. Conway presiding, Home Economics Kitchen.

The same order as on previous days was followed.

### Afternoon Session—Club Meeting.

Mrs. Kate M. Evans presiding, Assembly Hall.

Mrs. Evans conducted a meeting of one of her clubs. This meeting was then followed with a general discussion on club meetings.

### Friday, April 26—Morning Session—Handicraft.

Chas. Orchard Smith presiding, Engineering Building.

9:00 I. Talk, "How Handicraft can fit into our Club Projects."

9:30 II. Handicraft judging instructions, and contest.

10:15 III. Recreation.

10:30 IV. Contest in making a piece of club equipment.

11:30 Lunch.

### Afternoon Session—Visits to Club Members.

Mrs. Kate M. Evans, presiding.

The homes of the club members whose meeting was visited on Thursday were visited.

### Saturday, April 27—Morning Session—Office Methods.

Miss Jessie Hornidy presiding.

All office blanks and methods of keeping records and reporting work were discussed during this session.

### Afternoon Session—Reports, Itineraries, Etc.

Provision has been made for conducting a one-day or two-days' school in all counties of the state where such schools are wanted. They will be held during the months of May and June. Great effort is being made to standardize the club work of the state, and training schools provide one of the best means for doing this work. No better method has yet been devised for obtaining good work from club leaders. The results have been amazing wherever such schools have been held. It is desired that each county will avail itself of this opportunity and plan to make its school the best in the state.

CHARLES ORCHARD SMITH.

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There are 57 rules for success. The first is "Get Results." The other 56 don't count.

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E. P. VanDenburgh was appointed assistant county agent of Chaves county with headquarters at Roswell. Mr. Van Denburgh began work on April 1. Prior to that time he was manager of a large orchard tract in the Pecos valley near Roswell.

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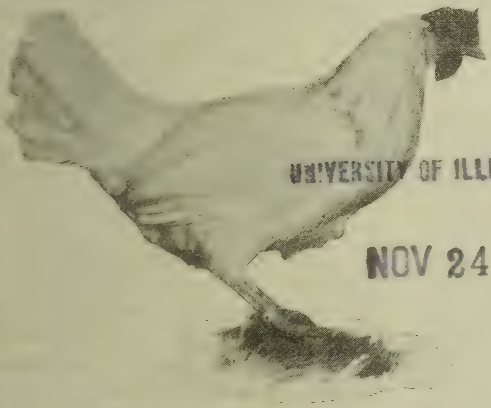
# THE NEW MEXICO FARM COURIER

VOL. VI. JUNE, 1918 No. 7



SINGLE COMB
WHITE
LEGHORN
HEN
No. A16

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NOV 24 1918

This hen was hatched April 20, 1916 and began laying October 17, 1916. From October 17, 1916 to October 16, 1918, inclusive, she produce 248 eggs. She weighed 3 lbs. and 1 oz. when the first egg was laid and her eggs weigh 26 oz. per dozen. From October 17, 1917 to April 30, 1918 she has produced 96 eggs, is in good health and still producing eggs.

Do you want a cockerel from this hen? If you do see page six.

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In Cooperation with the U. S. Department of Agriculture

# The New Mexico Farm Courier

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AUSTIN D. CRILE, President of College.
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY, Director of Extension.

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Mae M. Hawley .........Executive Secretary

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J. W. Knorr, Asst. Leader. State College.
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Dr. E. P. Johnson, Veterinarian.
C. A. McNabb, Marketing.
J. O. Miller, Farm Help.
Lewis C. Taylor, Poultry.

#### Boys' and Girls' Club Work—State College.

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W. T. Conway ,Canning and Drying.
Elizabeth Koger, Assistant Leader.
Gertrude Espinosa, Assistant.

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Lilian Randall, Asst. Leader.
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Sarah Van Vleck, Valencia Co., Belen.

# EDITORIALS

## WASTEFULNESS ON FARMS

(A. D. Crile)

Wastefulness on the American farm has long been recognized and efforts have been made to combat it. Owing to the fact that a farmer may do about as he likes with the things he owns, little headway has been made toward conservation of vehicles, machinery and tools, once they are delivered to the farmer or the ranchman.

Just why a farmer should invest a hundred dollars in a wagon, and then allow it to sit out in the wind, rain and hot sun until it is ruined, is difficult to understand. The same is true of mowing machines and the implements necessary to every farm.

Not infrequently one half of the value of a vehicle or machine is lost because it is not cared for under a shelter that has already been provided on the farm, for that purpose.

## MUST SAVE THE SOAP WEED

(A. D. Crile)

It is now fully demonstrated that the yucca (soap weed) may be made absolute insurance against loss of cattle on the ranges because of drouth. But if the cattlemen of the southwest are to have the benefit of this insurance, the government must take prompt measures to prevent further waste of the soap weed.

Enough of soap weed has been destroyed in New Mexico, by persons who merely cut off the tops in order to send that part of the plant to fiber factories to provide food for hundreds of thousands of cattle. This soap weed destruction has been carried on recklessly, for the past year, on government land along the Rock Island road.

An appeal has been made to the Department of the Interior to stop the waste and preserve this plant for the protection of the cattle during drouth seasons. One such drouth season we have with us now, and others are sure to occur. If the yucca is not destroyed, if its use is prohibited except as food for range cattle when they need it, there is an abundance of it for all time. Instead of losses of twenty or twenty-five per cent, as has occurred in the past, range cattle may be carried through a whole year, at small expense, with practically no loss, even in the dryest seasons.

## WHO IS RESPONSIBLE FOR OUR LIVESTOCK LOSSES?

Many complaints have come from various sections of southern New Mexico regarding the death of cattle on the ranges. The owners of cattle not infrequently assume that the losses occur from poison weeds or from some unaccountable disease.

I have made quite considerable investigation of such reported losses and find that in the large per centage of cases, in fact in nearly all of them, the loss is due to lack of food. Starvation has caused much more loss to the cattle men of the Southwest than all other causes combined.

The most pitiable part of it all is that such losses could have been prevented by a little care and foresight. Not only would the owners have been saved from serious financial loss, but they would have also kept from the cruelty of starving many head of cattle entrusted to their care if they had been considerate enough to utilize the yucca, or soap weed, as a cheap food stuff in times of drought.

If the stock men of this state want to survive it must be kept in mind that stock must be fed. The past two seasons in New Mexico should have taught us this dreadful lesson. There are thousands of cows on our ranges that will be unproductive next year because of the fact that they have had insufficient food, even if those cows survive the drouth ordeal which still prevails.

There is a humane side to this to which I want to call most emphatic attention. No man has a moral right to sit complacently by his fire or himself eat three square meals a day while he allows dumb brutes, dependent upon him for their living and comfort, to slowly perish from preventable starvation. It is a cruelty which cannot be too severely condemned and which is too prevalent in this State not to demand prevention in the future by legislation.

Stockmen, as a rule, are patriotic. They give freely to charity, to the Red Cross, and purchase Liberty Bonds when they could use their money to make more money than the per cent of interest paid by the government. But it is to be regretted that many of these same men are so thoughtless, to put it mildly, as not to understand that feed is necessary to maintain life.

On a recent trip through Socorro and Sierra counties I saw a number of cows and steers in a paralyzed condition, too weak to rise from the ground where they had fallen, without either food or water and waiting for the wolves and coyotes to put them out of their misery.

Such conditions exist in other counties and on other ranges, and will continue to exist during drought seasons, unless the public conscience is awakened to a point where it will demand the enactment of legislation to make such cruelties the legal, as well as the moral crime, that it is.

E. P. JOHNSON,
Extension Veterinarian.

Emergency is often opportunity in disguise.

# Livestock

## THE 1918 WOOL SITUATION

The Government has taken the entire 1918 Wool Clip of the United States on the basis of prices prevailing on July 30th last.

A method of handling the wool in sections where the clips are small is now being worked out which will probably allow selling in small lots. This plan will be made public as soon as it is definitely decided upon.

The trade is still waiting for detailed instructions from the Government before trading in wool. Maximum prices have been fixed on a scoured basis, and values for unwashed wool (which will depend on details to be given out) will be published as soon as definitely known. It is generally thought by the trade that this wool will be handled through the regular channels as in former years and controlled by the Government through the maximum prices and fixed profits and commissions allowed.

Local associations made up of enough small growers to enable them to ship their combined clips in car lots direct to Boston would simplify matters materially and eliminate at least a part of the dealers margins.

C. A. McNABB,
Field Agent in Marketing.

## CATTLE LICE AND HOW TO ERADICATE THEM

Cattle lice are widely distributed and have been recognized by certain live stock growers since early times. Cattle on the ranges often become grossly infested with lice before the owners recognize them. Even after recognition, some will wait until the animals shed off because it is too much trouble to dip.

It is just as important to dip lousy cattle as it is to bathe ourselves. Today the progressive cattleman recognizes the economic value of the dipping vat. Cattle are too valuable to allow vile vermin to suck their life's blood. Lice do not live on water or desquamated epitheluem, they are satisfied with good red blood. Stockmen should consider this seriously.

In no country in the world of today are such efforts being put forth as in the U. S. by the Department of Agriculture at Washington,—every Agricultural College and Extension Division to increase crop production and conservation not only of agricultural products but live stock as well.

If an individual cannot afford to build a vat, make it a community affair where several can contribute to its completion, built of cement it will last for years. I have been informed by a reliable cattleman that his vat paid for itself in one season.

There are a number of remedies that can be used, 1 Arsenical Sol., 2, Lime and Sulphur, 3, Nicotene and Sulphue and 4, the coal tar products.

It is unnecessary to go into the detail of the preparation of all the above mentioned, with the exception of one. Arsenic in the writer's opinion has no peer in the eradication of lice; to illustrate, at a recent dipping, lice were scraped off carefully and immersed in the dip solution, examined under the microscope after an instantaneous immersion proved that they were dead. Another great feature about arsenic, it can be used cold, no large fuel bill to contend with after the medicine is cooked.

Some people object to arsenic on account of its poisonous properties, the writer has used it extensively on tick eradication in the South with no bad results.

The following formulae is recommended to make 500 gallons of dip, 10 lbs. arsenous acid (As2-0-3) 25 lbs. sal soda (Na-2—CO-3) and two gallons of pine tar. Those contemplating using arsenic as a dip will find it to their benefit to write to the State College. The writer will be glad to demonstrate the proper methods of preparing this solution at any time due notice be given.

A blue print of the diagram herein illustrated can be obtained by writing to the Extension Division, State College.

E. P. JOHNSON,
Extension Veterinarian.

## SHADE FOR LATE HATCHED CHICKS

Late hatched chicks often fail to make satisfactory growth because proper shade is not within their range. Folks who are careful to give an abundance of green, succulent foods often fail to realize the benefits from the protection of growing vegetation. Chicks that are obliged to retire to the closeness of a hot coop, or house, in the heat of summer, because there is no other shelter from the sun's rays, are not getting the best possible conditions.

The air under the shade trees, or in the shelter of a hill of corn, is fresher and cooler than that of the coop; the soil far less likely to be infested with mites; while within reach there may be sprouted weed seeds and insect life.

Shade for late hatched chicks is more needed than for those that were produced in the cooler weeks of spring.

Chicks that suffer from the unprotected sun of summer do not make good gain from the food given them, and the owner is wasting part of the high cost feed that he has to purchase. Help save needed feeds by giving better summer conditions.

## THE SEASON FOR ROTTEN EGGS

With the advent of hot weather there is always the surplus of eggs unfit for use found in the stores. Every spoiled egg is an absolute loss of food, grain and other materials. The possibility of preventing this loss is great, and the methods used to prevent it are easy and costless. Fertile eggs are the only kind that will rot. Therefore, remove the rooster from association with the hens, and it will be impossible for the eggs produced by the hens to rot. Keep the nests clean and the eggs will not become contaminated with filth and dirt and thereby have a strong flavor. The shell of an egg is very porous, and strong odors and flavors readily penetrate it.

The great bulk of eggs produced in New Mexico are produced from feeds that would not otherwise be used; that is, the hens gather up spilled grains and waste grains and convert them into wholesome and nutritious food for human consumption. Each egg is worth in actual cash not less than three cents at the present time. Not one farmer in the state would think of deliberately throwing that much coin away. Still, for the lack of a little energy or ambition, many farmers throw away more than that each day by pure carelessness in handling their poultry products.

Every one believes that food is a great factor in winning this war. Then do not let this great waste escape notice. Stop it now Remember that fertile eggs will begin to incubate at 70 deg. F., and then, if the temperature is not continued, they rot. Infertile eggs will not begin to incubate at any temperature, and will not rot. The only way the quality of infertile eggs can be impaired is through filthy nests. Be considerate of the hen and what she produces! Save that much food toward winning the war.

Small amounts of poison
Mixed in proper spray
Kill the worms and beetles
And keep the rots away.
—F. S.

## WHITE WYANDOTTE HEN
### No. A256

This hen was hatched April 1, 1916. From November 26, 1916 to November 25, 1917, inclusive, she produced 230 eggs. She weighed 4 lbs. and 8 oz. when the first egg was laid and her eggs weigh 24 oz. per dozen. From November 26, 1917 to April 30, 1918 she produced 104 eggs, is in good health and still producing eggs.

Do you want a cockerel from this hen? If you do see below.

## USE WELL-BRED SIRES

The sire is half the herd. There is one sire for every twenty to forty females, hence the characteristics of the male are inherited by from twenty to forty times as many animals as those of a given female. Efficient sires are those bred for a particular purpose and are thus able to transmit to their offspring the characteristics for which they have been bred.

Market white-shelled and brown shelled eggs in separate packages. Uniform products command the best prices. Never market small or dirty eggs.

## SHE WANTS YARN

Mary had a little lamb,
But didn't give a darn;
Intead of fleece as white as snow,
She wanted khaki yarn.
—Western Newspaper Union Plate Service.

The milk scales and the Babcock tester ought to point the finger of doom to the merely average cow.

## A SON OF A16 OR A256 FREE

The Poultry Department of the New Mexico Experiment Station is desirous of having a suitable name for each of the two hens whose pictures appear in this issue of the Courier. To secure a list of names to select from the Poultry Department will deliver without cost to the resident of New Mexico a son of the hen for which he submits the most desirable name. Send the name or names you think appropriate to the Poultry Department, State College, New Mexico before September 1, 1918. Cockerel will be shipped in December.

## Fruits & Truck

### HOME GUARDS FOR HOME GARDENS

Every one who attempts to raise a garden should know that, ten to one, there will, sooner or later, be trouble to the garden from insects. The wise method, then, is to plan operations just as if the insect were a part of the garden program and **beat him to it!** Be ready and be beforehand in preparations to prevent or repel insect attacks, rather than wait to cure them. Know what ones are likely to be injurious, and know their habits. Then you can meet them on their own ground.

Fall cleanup and plowing of the garden, and winter harrowing all help to kill many insects, drive many away, and put the ground in good condition. Last fall is past. Remember this for next year.

Chewing insects can usually be poisoned with an arsenical preparation of some sort—Paris green, arsenate of lead or such used as wet sprays, dusted, or made into poisoned baits. Every season brings need for these. Then keep some on hand. Get the powdered arsenate of lead and keep it dry and it will not deteriorate.

Sucking insects have to be treated with a contact insecticide, such as kerosene emulsion, or tobacco solutions. In an odd hour sometime make up a few gallons of the stock solution of kerosene emulsion. Keep it well covered You will then have it when needed in a hurry, merely by diluting with the right amount of water. Get some tobacco preparation, blackleaf 40, for example, and have it on hand A little of that goes a long way, a pint making about 100 gallons of spray, and that will cover lots of truck.

Keep watch of the garden and go after the insect at the first sign of damage. Do not wait to see if he will leave without exertion on your part. Just take it for granted that he will **always** do **all** the **damage** he **can.**

Every home garden should have a small sprayer of some kind. The bucket hand pump and compressed air knapsack sprayers are good types for small gardens, costing up to $10.00. Larger gardens may require a barrel pump. If the place has only a few fruit trees, the barrel pump will serve for these, also. Nozzles throwing a fine spray are desirable as they are more economical of material. Angle nozzles or elbow attachments are necessary to make easy spraying of under sides of leaves, vines, etc. Keep the outfit clean and in repair Clean it out after using, with clean water.

Watch out for cutworms and get them with the poisoned bran mash. If flea beetles, blister beetles, cabbage worms, or such habitually attack the garden, keep such plants as are troubled sprayed with arsenate of lead, 1½ lb to 50 gallons of water. If plant lice are present, too, add blackleaf 40, also, at the rate of ¾ pint in 100 gallons of water, about 1 teaspoonful to the gallon. Get the few early squash bugs by hand picking and keep them from raising huge families later. Dust the **young** silks of sweet corn with one teaspoonful of powdered lead arsenate to the ear to prevent damage from the corn ear-worm Some insects, such as blister beetles, cabbage bugs, grasshoppers, etc., may be driven out of a garden at once by smudging or by driving with the wind by beating across with brush. An acute attack may thus be relieved until other measures may be resorted to.

Space will not permit a full treatise on garden insects. Remember it is easier to kill a few earlier insects or prevent damage, than it is to kill a host of insects later or remedy damage. Be on the lookout and act promptly. Be certain the insects are coming and be prepared. Who would think of farming without previously providing for water, seed and farming implements? Who should think of trying to fight certain enemies without so providing poisons, means of applying them, and giving other necessary attention? Insects are always on the offensive and our lines of defense have to be kept always strong.

Danger from poisoning to humans from eating sprayed vegetables is negligible if spraying is properly done. It is always well to thoroughly wash all sprayed vegetables before eating. Avoid spraying lettuce or cabbage shortly before cutting. If proper measures have been taken beforehand this will not be necessary.

D. E. MERRILL, Biologist.

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## THE BEAN BEETLE

Bean growers should remember that it is getting close to the time when the bean beetle again begins its seasonal damage. The adults will appear before long in the fields. Then is the time to apply the spray to prevent injury later. Preparations should all be made to combat this pest at the right time and so get maximum results. At the time when the adults first appear the plants are eaiser to spray than they are when they get larger, less material is used to insure a thorough job; the plants will mature practically uninjured, a maximum yield being insured. When the field gets completely over run by the beetles and each plant is covered with the young, it is too late to get good results from spraying. So get ready now and be prepared.

Any person may have a copy of Bulletin 106 on The Bean Beetle from this Experiment Station by writing to the Agricultural College for one.

Last year's average acre yield of beans was below 300 pounds, much below what it should be. A great deal of the loss was due to the bean beetle. At a cost of about 25 pounds of beans to the acre most of the damage may be prevented and the yield increased in various fields all the way up to 100%—dependent upon the usual amount of damage. We should get on the way for acre yield as well as for total pounds of beans in the State.

D. E. MERRILL, Biologist.

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The case of the pinto bean shows how a substitute food may gain popularity without increasing in price. Because of an unreasoning prejudice against the color of the bean, and because consumers knew little about it, the market offered a price too low for profit. The Food Administration has been carrying on a publicity campaign for the beans, and at the same time has used the control that ties in the license system. The result is that the pinto beans are selling at a fair profit to the growers, yet at about half the price of navy beans; and they are just as good in every way.—Youth's Companion.

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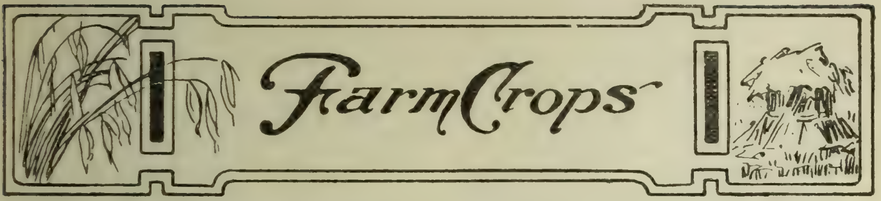
The tortoise won the race in the fable all right, but in these days it takes a man with the speed of the hare and the staying qualities of the tortoise to get anywhere in the world.



## INOCULATION OF LEGUMES

How to secure the largest crops and thus increase food production at the lowest cost is an important matter to all farmers. The inoculation of various crops to increase production is being agitated to a considerable extent by some agencies. This may not be a paying proposition; for some crops are benefited by inoculation while others are not; and some soils are naturally inoculated while others require artificial inoculation.

The need of inoculating the soil with bacteria and the benefits derived from it are frequently overestimated. In the first place, it must be remembered that only members of the legume family have the power of "fixing" the free atmoshperic nitrogen contained in the soil. The family Leguminosae contains several thousand species; but the ones with which we are most familiar are the clovers, alfalfa, peas, beans vetches, soybeans and cowpeas. If a legume is dug up carefully and the roots washed and examined, a number of plump swellings or nodules may be seen on the roots. These nodules are caused by the activities of a minute bacterium present in the soil where leguminous plants grow. Each nodule contains millions of these nitrogen fixing bacteria, so-called because they take free nitrogen from the air and combine it in a form suitable for the plant. The distribution of the legume bacteria so that they may come in contact with the roots of the legume is commonly called inoculation.

There are several methods of soil inoculation; but the most practical method and the most common is to haul earth from a field where a similar crop known to contain the desired bacteria has been grown, and broadcast this over the field at the rate of two hundred to five hundred pounds to the acre. Then the soil should be immediately harrowed in lightly, as exposure to sunlight for any length of time may kill the bacteria. A smaller amount of soil can be used if mixed and planted with the seed. When used in this way the soil should be run thru a sieve to remove all coarse particles, and equal parts of seed and soil used. It is well first to moisten the seed with glue or some similar substance, so as to cause the soil to adhere to them.

There is still another way of inoculating the soil, which is commonly called the pure culture method. This is done by securing from some source or other a small quantity of these nitrogen fixing bacteria, which have been produced artificially in pure cultures, and mixing these with a small quantity of soil, or directly with the seed. This, however, is a little more difficult, and is usually not recommended where either of the other two methods can be followed. The U. S. Department of Agriculture has in the past distributed free of charge small amounts of this culture upon application.

As has been said, the soil may be naturally inoculated; and a large part of the soils in the western states apparently do not require artificial inoculation.

If your alfalfa or clover is not producing the yields it should, dig up some of the plants and examine the roots for nodules, and if these are found wanting, try inoculating a small part of the field and compare this with a part similarly treated but not inoculated. In this way you can determine whether you will be warranted in going to the added expense of inoculating the whole field.

RUPERT L. STEWART,
Agronomist.

Under the heading, "It Is Better to Eat a Corn Dodger than to Be One," the Food Administration states that corn flour milling has increased from 3,000,000 barrels in October to 6,000,000 barrels in March. The output of corn flour during the last eighteen months has increased 500 per cent. Apparently corn dodgers are on the decrease, or increase,—which is it?

## ALIGNMENT OF AUTOMOBILE WHEELS.

"I thought you said those were first class tires you sold me week before last. Now just come out and look at 'em," said a red-faced, angry man to a dealer who has a reputation for selling only the very best casings obtainable. "These look just like the cheap ones I used before, that blew out in less than one thousand miles".

The dealer looked at the tires, thrust his hands into his pockets and calmly waited for the owner's wrath to subside, then asked: "How long do you think the best tires in the world would last if you hitched your tractor to your car and dragged it sideways over the sand and rough stones?" Getting only blank looks for a reply the dealer continued: "Well, that is just about what you are doing with those front wheels." A casual examination showed a sharp bend in the tie-rod connecting the two steering knuckles and a few questions brought out the information that the car had been in a mix up with a stump some two months before and that since that time front tires had been wearing out with alarming rapidity and the car had been very hard to steer.

"These tires show remarkably good quality. They are practically ruined, to be sure, the middle of the tread having the rubber entirely gone and one or two layers of the fabric ground off; yet you cannot find on them anywhere a place where the plies of fabric have separated from one another nor any evidence of 'sand boils' forming under the rubber that is left. I should say these are about as good tires as can be made; but they have not had half a chance. Let me show you why."

The dealer jacked up each front wheel and held a pencil steadily against the tread while the wheel turned. Measuring across between marks revealed the fact that the centers of the treads were two inches farther apart in front than at the back. This accounted for the difficult steering: each wheel constantly trying to lead off towards its side of the road and being held to the course by the other wheel and by the driver's efforts. The resulting sliding over the sand and sharp stones in the road surface accounted for the rapid grinding off of the "middles" of the treads.

Tires will wear longest if they always roll straight forward. However, to enable the car to follow the track with less effort of the driver and to prevent the wheels from constantly trying to climb up out of the ruts and so wear off the sides of the casings, most automobile builders give the front wheels a slight "toe-in", that is, the distance between centers of the treads is narrower in front than at the back. It should never be more than one-half inch and preferably less. Usually the car instructions' book will tell the best amount. This should be verified by test at intervals and especially when there is reason to suspect that it may not be correct.

Poor alignment may be due to causes other than bent rods. A bent axle or steering knuckle, or poor adjustment at the factory or assembling station may be the cause. Bent rods are easily straightened. Also the rod length may be readily adjusted. With a bent axle or steering knuckle it is a very different matter. Usually it is best to replace the part. If the bend is slight, it is sometimes possible to get the alignment nearly correct by adjustment of the rod.

Rear tires aso may suffer from wheels being out of line. The cause may be a bent axle or the brace rods may be bent or out of adjustment. The test are to mark and measure as for front wheels and in addition to measure the effective length of brace rods.

Sometimes a wheel will be sprung by the heavy side force put upon it when deep sand, soft earth, or some other obstruction is encountered. The parts affected are usualy the steel hub flanges, these being bent out of "true". This will give the wheel a wobbling motion easily seen if the wheel is jacked up and turned. It will cause the tread to be worn off in spots. A temporary repair may be made by inserting strips of pasteboard under the flanges and again tightening the hub bolts. To "true up" the hub requires a skilled mechanic equipped with the proper tools.

A. H. HOFFMAN,
Agricultural Engineering Dept.

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A Nebraska farmer, dissatisfied last fall with the 800-bushel return from 32 acres of wheat, at odd times during the winter ran the straw through the separator a second time. He obtained 75 bushels which sold for $187.50. There had been a waste of 9.3 per cent of his crop. Careful thrashing pays.

## DOG LAWS NEEDED

Wool and mutton are commanding higher prices than ever before and supplies of wool are being depleted so rapidly that it will take some time after peace is declared to restock the wool trade, says bulletin 935, "The Sheep-Killing Dog," issued by the United States Department of Agriculture.

The United States is experiencing the greatest shortage of mutton and wool in the history of the country. It is the duty of the American farmer to increase the supply.

The sheep-killing dog constitutes one of the greatest menaces to the success of the sheep industry.

The dog not only kills sheep but keeps out of the sheep business men who are otherwise inclined to go into it.

The most effective method of dealing with the sheep-killing dog is through efficient legislation.

Notable progress has been made by several States in enacting good dog laws, and others are expected to take similar action.

No law, however well worded it may be, can be effective unless it is enforced and has the moral support of the people who are affected by it.

Uniform State dog laws are desirable. —Weekly News Letter.

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A pair of flies beginning operations in April may be progenitors if all were to live, of 191,010,000,000,000,000,000 flies by August. This number would cover the earth 47 feet deep.—C. F. Hodge in Nature and Culture.

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The recent Liberty Loan and Red Cross drives were a great success, all of which makes us realize more than ever what a wonderful nation we have to render service for.

# County Agent News Notes

## DONA ANA COUNTY FARM BUREAU HOLDS SECOND ANNUAL MEETING

That the Farm Bureau is rapidly becoming an important factor in the agricultural development of New Mexico was clearly demonstrated on May 11 at the second meeting of the Dona Ana county organization.

Over 800 farmers from all parts of the county were present to hear lectures and attend to business matters of the Bureau such as election of officers, etc. The meeting was held at the State Agricultural College, beginning at 9:00 a. m. and lasting until 6:00 p. m.

A greater portion of the morning was spent in looking over the fine dairy and beef cattle, horses, sheep, hogs and poultry owned by the college. Aso, the experiments under way in connection with various farm crops, fruits and truck crops were visited.

The afternoon session was devoted to lectures and business matters. Among the speakers were President A. D. Crile of the Agricultural College, Ralph C. Ely, Food Administrator for New Mexico, I . D. O'Donnel of the Reclamation Service from Billings, Montana, L. M. Lawson, Rio Grande Project Manager, Joseph Perry, Drainage Engineer, Reclamation service and Mr. James, Secretary of the New Mexico Tax payers league.

As subsidiary organizations of this Farm Bureau there are:—The Mesilla Valley Fruit Growers' Ass'n; Mesilla Valley Swine Growers' Ass'n.; Mesilla Valley Poultry Ass'n.; Dairy Ass'n.; Cow-Testing Ass'n. Fair Association and Bee Keepers' Ass'n.

In the Dona Ana Farm Bureau, New Mexico can boast of one of the most active Bureaus in the west.

In this connection it might be mentioned that the Farm Bureau idea is growing rapidly over the state. Colfax, Curry, San Juan, San Miguel and Union counties are getting their Farm Bureaus started nicely, and no doubt will follow the pace set by Dona Ana county when they have been established for the same length of time.

The Farm Bureau is now being universally recognized as the one organization within the county through which all of the different phases of agriculture can be co-ordinated and result finally in its greatest agricultural development.

Word has been received from R. R. Robinson, formerly County Agent in Chaves County, to the effect that he is now flying at Chanute Field at Rantoul, Illinois.

Richard Buvens, Jr. formerly assistant County Agent in Eddy County, writes that he is now stationed at Camp Upton, Long Island. Mr. Buvens will soon be "over there."

R. S. Conroy was appointed County Agent of Valencia County with headquarters at Los Lunas, effective May 12th.

In the Corn Improvement Project in Dona Ana County 67 farmers have agreed to act as demonstrators.

52 farmers in Colfax county have agreed to act as demonstrators in the Bean, Corn and Wheat Improvement Projects as outlined by the Colfax County Farm Bureau.

## PRESIDENT WILSON'S APPEAL FOR GARDENS

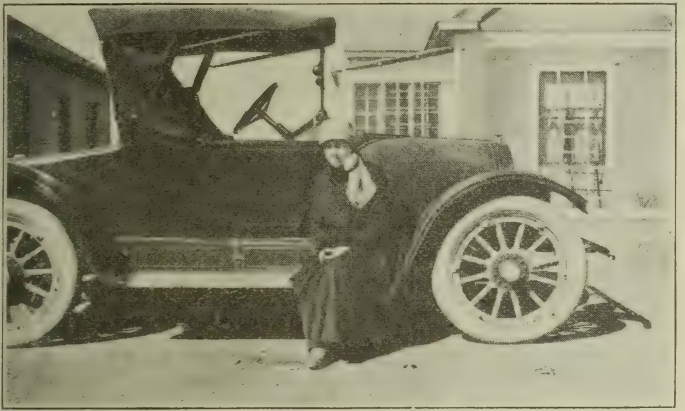
"Let me suggest, also, that every one who creates or cultivates a garden helps greatly to solve the problem of feeding the nations."

White House, April 15, 1917.

"The worlds in which we live are two
The world 'I am' and the world 'I do'."

# Home Demonstration Agent Notes

(Edited by Tura A. Hawk, State Leader Home Demonstration Agents).



MRS. MAY D. STALKER, DISTRICT HOME DEMONSTRATION AGENT FOR CURRY, DE BACA AND ROOSEVELT COUNTIES.

Since last June Mrs. Stalker has been busily engaged in giving her services to the women of these counties. Much of her work has been along the lines of organization and Food Conservation. A Farm Bureau was organized and many clubs were formed which will devote their time to Poultry, Gardening, Beet Culture and Sewing.

Mrs. Stalker is especially well qualified for this work, because of her training at Woman's Training School, where she specialized in Economics and Nursing. She has served as President of the Woman's club, and is at present Head of Department of Domestic Science in the local woman's club. Mrs. Stalker was one of the eight women of New Mexico who was chosen by Governor Lindsey as a delegate to the Peace Conference held in Philadelphia during May. We are indeed fortunate to have a woman with such splendid training and with such a charming personality as Mrs. Stalker in our state.

## SAVE THE BABY

One of the victories not heralded on the front pages, but one which in time to come will be noted by all students of human welfare, is the saving of infant life in England during the second year of the war.

Why should the United States not make as good a showing? Or why should we be satisfied with a less favorable mortality rate than New Zealand where only one baby in twenty dies, while in the U. S. one in ten dies. The most favorable state rate is Minnesota.

Babies and little children are affected if there is a decrease in the sale of milk, as is shown by a survey of the findings in the city of Baltimore where of 756 children between 2 and 7 years of age, only 29% are now having fresh milk as against 60% a year ago. The number of families having no fresh milk has risen from 27 to 107.

There has been a general substitution of tea and coffee for the milk. It is an interesting fact that the foreign-born mothers, altho their incomes are slightly lower than the incomes of the native white mothers, have more generally continued to buy milk.

One pint and a half of fresh milk is the desirable daily allowance for the average child. Seeing that the children have this important food is one of the best things we can do to save our quota of 425 in this state.

LILIAN RANDALL,

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## THE NEW TABLE MANNERS

### From the U. S. Food Administration

Are you familiar with the latest rulings in war etiquette? And especially the new table manners? Here are a few excerpts from the latest revised 1917 code. It's a war emergency edition, and remember that for every rule "there's a reason."

Economy luncheons are now in vogue. Bread is served on a breadboard and cut as wanted. Everything is passed, and it is correct for each guest to take only what she is sure she wants and to eat all she has contracted for. The cleaner the plate, the better the manners!

At dinner, bread is dispensed with entirely. Likewise butter. It is quite correct to tip your soup plate to be sure of the last drop. "Waste not, want not."

The meat is carved at table that the guests may be served a second time rather than waste too large a first portion.

When the new war dishes are passed, sample them. Be willing to try everything once. You may like them. But if you are offered food that you are sure you cannot eat, it is quite **au fait** to refuse it point blank. Your hostess will understand that it is merely the new war table manners. No waste is the order of the day.

If unable to accept a dinner invitation, you should send your regrets before your hostess has done her marketing. For these are days of close buying of foodstuffs.

At reception, lunch or tea it is no longer good form to toy with one's food and then send it back to be thrown out. For this reason it is becoming more and more popular to serve refreshments, whenever possible, in buffet style. The guest is then put upon his honor not to take more than he wants.

At hotel or restaurant it is perfectly consistent with the order of the day to use your husband's remaining bit of butter that would make your bread "just come out even."

Don't waste sugar. If two lumps of sugar have been put at the side of your coffee and you do not use sugar in your coffee at all, better return them to your hostess.

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## TRIMMING THE PRICE OF TRIMMINGS

Trimming seems such a necessary part of womens clothing and trimmings cost so much, that it seems necessary to devise at least a few inexpensive trimmings.

Why not try one of the following suggestions on the new gingham dress:

1—Rows of featherstitching.
2—Clusters of tucks.
3—A combination of featherstitching and tucks.
4—Fagoting.
5—A combination of fagoting and featherstitching.
6—Bands of bias tape finished to the right side of the garment.
7—Butterfly or flower design done in outline stitch.
8—Conventional designs in blanket stitch.
9—Interlaced circles in uneven button hole stitch.
10—Piping in contrasting color.

These touches are simple and attractive. They require very little money and by their wise use, an otherwise very plain garment is transformed into a very attractive gown.

TURA A HAWK.

# Boys' and Girls' Clubs

## Charles Orchard Smith, State Leader of Boys' and Girls' Agricultural and Home Economics Club Work in New Mexico

Charles Orchard Smith assumed the leadership of the Boys' and Girls' Club Work in New Mexico on February 16, 1918.

He was born in Oaxaca, Mexico, on July 10, 1892. The first four years of his life were spent in Oaxaca and Guanajuato, Old Mexico. At the age of four his family moved to Wooster, Ohio, where Mr. Smith received his early school training in the public schools of that city and did one and one half years of his college work in 1913. Mr. Smith entered Cornell University and completed his course there in February 1916.

His school training and practical experience fit him especially for the work he is doing. As a student he specialiized in subjects which trained him for his particular work. At the same time he worked constantly with boys and girls through the college and city Y. M. C. A. and the George Junior Republic. His work at the George Junior Republic was conducted under the guidance of William R. George, one of the nation's best known leaders in work with boys and girls.

Aside form the practical farm training which Mr. Smith received under varied conditions throughout his entire life he has had considerable experience in lines of work which fit him particularly for the work of a state club leader. He worked for two years on the Experimental farm of the Ohio Agricultural Experiment Station. One year was also spent in one of the offices of the same institution. During 1916 and 1917 Mr. Smith organized and conducted the garden clubs of the Englewood (N. J.) schools where in 1917 more than 600 school children were enrolled. The work done in Englewood during 1916 is reported in bulletin 26, 1917 of the United States Bureau of Education. In September 1917, Mr. Smith left Englewood to become assistant State Leader of Boys' and Girls' Club Work in New Jersey where he remained until coming to New Mexico.

## MANY COUNTIES LINED UP FOR CLUB WORK.

### Make the Acquaintance of Your Club Leader.

The rapidly growing interest in boys' and girls' agricultural and home economics club work is evidenced by its unusual growth during the past few months. Not long ago the club department of the Extension Service consisted of two state workers. There are now four state workers and county or assistant county leaders in twenty one counties. Aside from these are volunteer and paid local leaders employed by the schools working under instruction of the club department in all parts of the state. There is no reason why every child of club age in the state cannot be properly supervised and instructed in some phase of the work. The following is a list of the leaders employed by the College cooperating with the United States Department of Agriculture and County organizations. Call on him. As your servants they look to you for direction and support.

### List of Leaders.

Elba V. Wiseman, Co. Club Leader, Santa Rosa, N. M. Guadalupe Co.

Mrs. E. M. Long, Co. Club Leader, Portales, N. M. Roosevelt Co

Tayner I. Runyan, Co. Club Leader, Tucumcari, N. M. Quay Co.

Edna West, Co. Club Leader, Farmington, N. M. San Juan Co.

E. W. Bowyer, Co. Club Leader, Clovis, N. M. Curry Co.

Lulu B. Hughes, Co. Club Leader, Roswell, N. M. Chaves, Co.

Mildred F. Rea, Co. Club Leader, Hillsboro, N. M. Sierra Co.

James L. Phillips, Co. Club Leader, Albuquerque, N. M. Bernalillo Co.

R. G. Foster, Co. Club Leader, Springer, N. M. Colfax Co.

B. H. Kirk, Co. Club Leader, Ft. Summer, N. M. De Baca Co

Mrs. Kate M. Evans, Co. Club Leader, Las Cruces, N. M. Dona Ana Co.

Braxton F. Moore, Co. Club Leader, Clayton, N. M. Union Co.

Elizabeth A. Gumm, Co. Club Leader, Carrizozo, N. M. Lincoln Co.

---------------------- Co. Club Leader, Belen, N. M. Valencia Co.

Mrs. Maud Wyman-Jenkins, Co Club Leader, Carlsbad, N. M. Eddy Co.

C. H. Bennett, Co. Club Leader, Estancia, N. M. Torrance Co.

Felipe Quintana, Co. Club Leader, Santa Fe, N. M. Santa Fe Co.

Mrs. Sarah J. Payne, Local Club Leader, Duncan, Arizona. Grant Co.

Luis Gonzales, Local Club Leader, E. Las Vegas, N. M. San Miguel Co.

Theodore Pacheco, Local Club Leader, Trujillo, N. M. San Miguel Co.

Rosario Lucero, Local Club Leader, E. Las Vegas, N. M. San Miguel Co.

Chris. Peterson, Local Club Leader, Cherryvale, N. M. San Miguel Co.

Catherine Pritchett, Co. Club Leader, Socorro, N. M. Socorro Co.

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**In the U. S. Boys' Working Reserve** more than 102,000 between the ages of 16 and 21 years have been enrolled and trained for farm work in six states, announces the Department of Labor. Illinois leads with a registration of 25,000 boys.

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The housefly is a modest cuss,
He never seeks for fame;
He has no business in the soup,
But he gets there just the same.
—Journal American Medicine.

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A man to whom illness was chronic,
When told that he must take a tonic,
Said "Oh, Doctor dear,
"Wont you please make it beer?"
No, no, said the Doc, that's Teutonic!"

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# THE NEW MEXICO FARM COURIER

VOL. VI. SEPTEMBER, 1918 No. 10

A PORTION OF THE UNION COUNTY CALF CLUB

**FIFTY BOYS AND GIRLS BUY HOLSTEIN CALVES**
(See Article by Mr. Beaty on Page 15)

Published Monthly by the

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In Cooperation with the U. S. Department of Agriculture

*The New Mexico Farm Courier*

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AUSTIN D. CRILE, President of College.
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY, Director of Extension.

### EXTENSION STAFF.

#### Administration.

A. C. Cooley..........................Director
W. L. Elser............Assistant to Director

#### County Agricultural Agent Work.

J. W. Knorr, Asst. Leader, State College.
J. G. Hamilton, Bernalillo Co., Albuquerque.
J. R. Thomas, Chaves Co., Roswell.
V. L. Martineau, Colfax Co., Raton.
E. Peterson, Curry Co., Clovis.
L. P. Briggs, De Baca Co., Fort Sumner.
H. H. Brook, Dona Ana Co., Las Cruces.
A. Z. Smith, Eddy Co., Carlsbad.
W. M. Ellison, Jr., Grant Co., Silver City.
D. F. Laubmann, Guadalupe Co., Santa Rosa.
A. L. Tarlton, Lea Co., Lovington.
Stuart Stirling, Lincoln Co., Carrizozo.
A. C. Heyman, Luna Co., Deming.
Serafin Abeyta, Mora Co., Mora.
Leslie Beaty, Otero Co., Alamogordo.
E. M. Yates, Quay Co., Tucumcari.
T. M. Pacheco, Rio Arriba, Tierra Amarilla.
Antonio Pacheco, Sandoval Co., Bernalillo.
J. M. Ramirez, Santa Fe Co., Santa Fe.
H. S. Moles, San Juan Co., Aztec.
M. R. Gonzalez, San Miguel, East Las Vegas.
E. J. Wilson, Sierra Co., Hillsboro.
H. P. Powers, Socorro Co., Socorro.
F. E. Quintero, Taos Co., Taos.
R. L. Strong, Torrance Co., Estancia.
Orren Beaty, Union Co., Clayton.
R. S. Conroy, Valencia Co., Los Lunas.

#### State Extension Specialists—State College.

John E. Watt, Dairying.
Dr. E. P. Johnson, Veterinarian.
C. A. McNabb, Marketing.
J. O. Miller, Farm Help.
Lewis C. Taylor, Poultry.
J. G. Griffith, Cereal and Forage Pests.

#### Boys' and Girls' Club Work—State College.

Charles Orchard Smith State Leader.
W. T. Conway, Canning and Drying.
Elizabeth Koger, Assistant Leader.
Gertrude Espinosa, Assistant.

#### County Home Demonstration Work.

Tura A. Hawk, State Leader, State College.
Lilian Randall, Asst. Leader.
Lura Dewey Ross, Asst. Leader.
................Bernalillo Co., Albuquerque.
Bertha Becker, Dona Ana Co., Las Cruces.
Lucille Woodard, Chaves Co., Roswell.
Wilma D. Evans Hoyal, Colfax Co., Raton.
Mrs. J. T. Stalker, Curry Co., Clovis.
Carrie P. Phelps, Grant Co., Silver City.
Sarah Van Vleck, Valencia Co., Belen.

# EDITORIALS

## SUNFLOWERS AND ENSILAGE

The New Mexico College of Agriculture and Mechanic Arts recently astonished the citizens who pass along Camino Real by cutting down the wild sunflowers that grew by the roadside, hauling them to the Experiment Station and putting them into a silo. Professor George R. Quesenberry, in charge of the College farm work, has grown the Russian sunflower on the College farm and gathered the wild sunflowers from the roadside, and has a large silo filled; the contents of which are now fermenting into the choicest of silage. This will mean great financial benefit to the State of New Mexico, as the wild sunflower has heretofore been considered a pest. The College will soon show that it has great economic value to New Mexico.

The Russian sunflower, in from seventy-five to eighty days, will yield twenty-five or more tons of prime ensilage per ace.

It is the intention to conduct experiments with a great many of the weeds, grasses, and shrubs that grow in New Mexico as some of these look very promising.

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## "Climate and Crops in New Mexico"

The State College has just received from the press Bulletin No. 113, entitled "Climate in Relation to Crop Adaptation in New Mexico." This bulletin takes up by counties the data which have been compiled by the Weather Bureau, under Mr. Charles E. Linney, and the reports gathered by the Experiment Station, under Director Fabian Garcia. The bulletin will be found of great service, as it gives in graphic illustrations, as well as careful detail, the amount of rain and snowfall, temperatures, lengths of growing seasons, and different sorts of crops grown in the vaious counties of the State. This bulletin has been prepared at a very considerable expense, and is ready for distribution, but only to those who have real use for this information, and only upon request. Copies will be mailed to libraries, county agricultural agents, newspapers, and persons who will need this information as reference, and the distribution will be made further on application. The authors of this bulletin have done a very careful and a very great work for our State.

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### The War and the Producer

The new draft law will practically take an inventory of the available man power of our country. Our Nation must now stand up and be counted, and one must either fight or produce. The fighters must be at the front, but the producers must be at the rear. Coal, minerals, food, munitions are all essential to the winning of the War, and I think that the Nation as a whole feels great assurance in the justice, equity, and wisdom of the Selective Service Act as it has been and is now being administered. Those who are ordered to remain at home and keep the industries going—to keep raising stock, growing mutton and wool, producing wheat, corn, and beans—should feel that they are serving their country's interests with the same quality of patriotism and service as those who are at the front; and just as the commanders of the Army allow no slackers, so must we, who are producers, see to it that everything runs to its utmost capacity, with strict economy, and that no slackers be allowed. The "Work or Fight" slogan ought to be scrupulously carried out in every nook and corner of New Mexico.

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# Livestock

## THE MILK GOAT

### One of Our Neglected Assets

Topographically, a great part of our state is the Switzerland of America, with its lofty mountains, its beautiful scenery and its balmy air. But this Switzerland of ours has the characteristic of American immensity. Think of Switzerland with 16,976 square miles and New Mexico with over 122,000. Our national forests alone cover an area of approximately ten million acres of forest land, serving as huge sponges to attrack the rain, conserve the moisture and let it drain slowly down to our irrigated valleys.

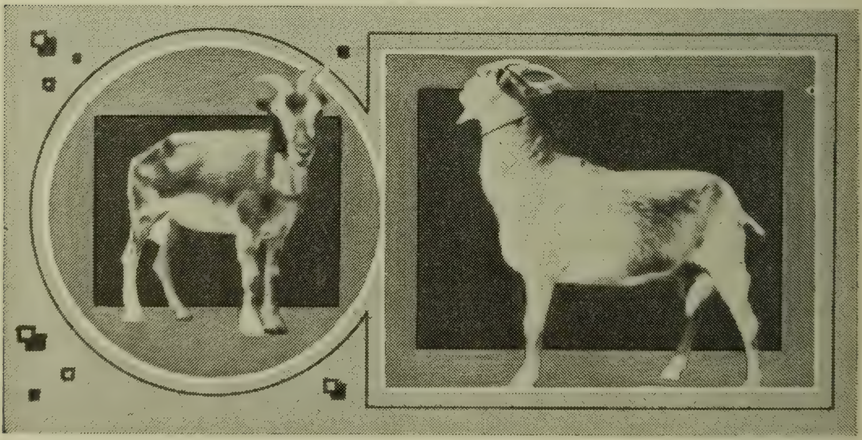
Adaptability and usefulness are the great questions regarding the building of industries from our natural resources. Our agriculturists have found the sorghum, the silo and the pinto bean adapted to farming conditions on our plateaus, and our stockmen have found the Hereford cow and the Rambouillet sheep adapted to our range pastures.

Here I want to introduce the milk goat as one of our great animal resources, adaptable to our mountains and capable of making New Mexico famous for the production of cheese, and also solve the problem of producing milk for the home of the poor man who lives in a village or on a small farm.

### Goat is Poor Man's Cow

In Europe the goat is the poor man's cow, but in California the owner of the largest ranch of pure bred Toggenburg goats who sells his stock when five months old at from seventy five to one hundred dollars apiece and his cheese in containers of two ounces and up, says, "the goat is the wise man's cow."

The goat is a browser by nature and will stand straight up on her hind feet and rip the leaves of the oak tree, and will stoop down and gather every acorn on the ground. She is always active and enjoys climbing the highest mountains and thrives well and maintains a good flow of milk when confined in a back yard. She enjoys a great variety of clean food, but will not touch slop or anything soiled or rotten. When in good condition she is graceful in movement, very attractive in appearance and wonderfully intelligent. .



(Courtesy of New Mexico Ruralist)

**Selected New Mexico Milk Goats**

Very few milk goats have been imported to this country from Europe, among them is the doe Fanette, No. 151, which produced 2680 pounds of milk in one season and 84 pounds, 13 oz. in seven consecutive days, but California Gretel went one better with a yield of 2945 pounds in one season.

Seven goats can be kept at the expense of one cow with advantages impossible in the case of the cow. By proper regulation of kidding the supply of milk can be maintained all the year around, and according to best authorities, no milk is as nutritious and as free from tuberculosis and other diseases as goats' milk.

W. Sheldon Bull in his writing entitled "Money in Goats" says, "The neglect in using the milk goat in this county for dairy purposes is due to a considerable extent perhaps, to prejudice arising from the ridicule of which the little animal is so frequently the underserving victim, but more largely owing to the fact that the advantages of goat dairying, both from a hygienic and commercial point of view, are imperfectly understood."

New Mexico has within its boundaries at least four hundred thousand head of goats. My experience is that among these many specimens are found of good dairy characteristics which could make the foundation of a profitable breed, by proper selection, and care in breeding them to pure bred bucks of the European milk type.

ANTONIO PACHECO.

Assistant Emergency Demonstration Agent, Sandoval County.

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A barrel of sorghum in the cellar is worth a ton of sugar in Java.

## A Method of Controlling Contagious Abortion

### Eighty Nine Hereford Bulls Tested

Contagious abortion is the nightmare of the dairyman and breeder when it once becomes fixed in their herds. In a number of cases it is impossible to recognize it without a blood test. Recently C. T. Turney of Las Cruces purchased 89 Hereford bulls at a cost of over $17,000 for use on his range in Doañ Ana Co. After the deal was consumated Mr. Turney learned that contagious abortion was prevalent in some localities where a part of this herd came from. These bulls were tested before they were turned out on the range. Fortunately there were no reactions

The writer took these samples;

### Articles Required

Pans, etc.; antiseptics—lysol, 3%; KMNO-4, 2%; Bichloride, 1 in 1000; two ounce bottles to correspond with the number of animals to be tested; and ½ oz. bottles to hold the serum from the above number of animals, that is, ½ oz. bottles to every 2 oz. bottle. Have on hand a few extra of each size in case of breakage. They should be sterilized and rinsed with distilled water and then corked up tightly. There should be a couple of asperating needles, well ground and sharpened. The ordinary hypodermic needle will not do, on account of the heavy skin and thick fascia covering the jugular vein.

### How Blood Samples Should be Drawn

It is absolutely necessary that the animals be under control. A good chute with a squeezer will make the task easy. The animals should be fairly empty otherwise the pressure of the squeezer will cause them to vomit. After the animal is secured in the squeezer, a rope should be placed around the horns, and a half hitch made around the nose, the rope should be kept up as high as possible so as not to interfere with the breathing. The head can then be fixed or drawn up to a post. A cord (sash) should be placed around the neck low down, to check the return blood flow in the jugular, the neck should be washed with a good strong antiseptic, lysol, iodine, permanganate or bichloride of mercury. The needle should be inserted in a slanting position towards the head; if this precaution is observed the danger of puncturing the vein twice will be reduced to a minimum. It must be remembered that the blood flow is downward. So that if the needle is inserted in an oblique manner the point will meet the downward current.

The operator should have an attendant to hand him the bottles, needles, etc. The hands should be kept immaculate, for fear of contaminating the samples. After the required amount of blood is taken, the canula should be withdrawn, at the same time pressing around the seat of the puncture with the left hand, otherwise a vacuum will be created and possibly a tearing of the vessel walls might occur. The seat of puncture should be disinfected immediately after the sample is drawn.

### Care of the Samples

The samples should be numbered as drawn, and placed on ice if possible so the blood will coagulate quickly. As soon as the serum is free or has settled out from the coagulum, it could be drawn off into the ½ oz. bottles, which should be corked immediately and sealed with wax, packed carefully and shipped to the laboratory at Washington, D. C.

The two oz. samples should not be destroyed until the last serum sample is secured and packed, for otherwise if one should get broken, fresh blood would have to be secured; and if the herd was turned out, this would be a difficult matter. As the blood was drawn from each animal it was numbered and the animal itself was branded with a number corresponding to the sample. This eliminates any possibility of confusion should any sample be found to react.

This is the first time that blood samples have been taken on such a large scale in range bulls, so let us hope that the Turney method of controlling contagious abortion will be followed by others.

E. P. JOHNSON

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Feel Like Loafing? Remember that other F. L. L.--Fourth Liberty Loan!

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# Fruits And Truck

## WINTER ONIONS AND SPINACH IN SOUTHERN NEW MEXICO

Both of these crops belong to the cool season vegetable group, and can withstand considerable freezing weather. In the southern and warmer parts of the State, particulary in the lower Rio Grande valley, the Mimbres and Pecos valleys, and in the Tularosa Basin, where the winters are mild, the seed of these vegetables can be planted in the field in the fall. The results at the Experiment Station with onions have shown that a larger crop can be raised by planting the seed in field seedbeds in the fall and transplanting the young plants to the field as early as possible in the spring. As a rule, the best results have been obtained by planting the seed in the seedbeds or in coldframes from about the 25th of September to the 10th of October.

Care must be taken not to plant the seed too early, for fear that all or a large percent of the onions will produce seedpods the following year. If planted too late the little seedlings will not grow large enough during the fall, winter and early spring for transplanting to the field at the proper time the following spring.

### Plant Onion Seed Shallow

The seed may be drilled in rows 4 to 6 inches apart in the seedbed. Great care should be taken in regard to the depth. If possible, the seed should not be planted, under field conditions, more than ½ to ¾ of an inch deep. If planted too deep it will not give a good stand.

Immediately after planting the seed it should be irrigated, to produce germination. As a rule, a second irrigation is given the seedbed while the plants are coming through, and before the germination is completed. During the winter two or three irrigations may be necessary, the number depending upon whether the winter is wet or dry.

Under good soil conditions and good management of the seedbed, and if the water is favorable, two or three pounds of seed will be plenty to produce enough plants for one acre; but since it is a hard matter to have ideal field conditions, it is best to play safe and use at the rate of from three to five pounds of seed to the acre.

If the crop is simply to be used for bunch onions, they will be ready for this purpose by the 15th to the 30th of March. If they are to be used for transplanting, they should be set out as early as possible in the spring. Under ordinary conditions the onions would be ready for transplanting during the last two weeks in March. It takes about 100,000 onions to transplant an acre. The distances are usually 4 inches apart in the rows and from 12 to 15 inches between the rows.

In order to produce a good yield, other factors remaining favorable, the soil should be as rich as possible. A sandy or extremely heavy adobe soil should not be used if a large yield is desired. The best soil to use is a strong loam.

**Onions Require Thorough Cultivation**

The spring and summer tillage of the onion field is simple, but it requires considerable work and close attention. Light and frequent irrigations are better than heavy irrigations at long intervals. Frequent cultivation should be given; if possible after each irrigation. Watch for the onion thrips, and if present, spray before they begin to injure the onions.

In case the seed cannot be started in the fall in the southern part of the State, the next best thing to do is to plant the seed in the field as early as possible in the spring—the earlier the better. The results at the Station from field seeded plants in February gave larger yields than from the plantings in April and May. In the northern part of the State, where the winters are colder, it is not advisable to plant the seed in the fall in field seedbeds, but it should be planted as soon as spring opens up.

The Brown Australian is very popular and a good keeping variety. The White Bermuda is one of the earliest varieties. It usually ripens by the last of June. The Denia is a very sweet and large growing variety, but is not a good keeper. There are other varieties that are good, such as the Prize Taker, Yellow Danvers and Red Wethersfield.

**Plant Spinach Middle of September**

Spinach can be planted either on the level or on the side of ridges. As a rule, better results can be obtained from planting it on the side of a ridge. By planting the seed about the middle of September in the warmer agricultural districts in the southern part of the State, some of the spinach will be ready for use before the cold weather sets in, and all of it will be ready for harvesting by the first to the 15th of March the following spring. Later plantings will be slower in growing, and will not be large enough for use until the following spring.

After the cold weather sets in, in December and January, the plants will stop growing until the weather begins to turn warmer, and the leaves of the plants will tend to become noticeably yellow.

As a rule, one ounce of seed should plant 100 feet of row. One or two irrigations will be necessary to get a good germination. This will depend upon the weather and the soil conditions. During the winter there is very little to do to the spinach bed except keep it from getting too dry.

The Prickly, or Winter, and Thick leaved Round are two good varieties.

The planting of onions and spinach in the spring for colder and higher altitude will be discussed in a future article.

FABIAN GARCIA

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**Tax the Dogs**—A proposed law to lay a heavy war tax on dogs and cats, if it is enacted, will not only add millions of dollars to our war fund but it is likely to greatly decrease the number in the canine and feline tribes, which should result in a saving in several ways. Much food now fed to a lot of useless curs and pusses would be conserved. The lives of thousands of useful birds destroyed by cats would be saved and more than 100,000 sheep now annually killed by dogs would add their wool and mutton to increase the supply of food and clothing for our soldiers and sailors. A good dog or a good cat is worth the ax, the worthless ones would be better killed.

# Farm Crops

## "LIBERTY WHEAT HARVEST IN 1919"

On July 22 the United States Department of Agriculture started a campaign to increase the winter wheat acreage this year. The American farmers are asked to plant not less than 45,000,000, and if possible, 47,500,000, acres of winter wheat this year. The plan inaugurated by the Department fixes a definite acreage by states, and puts it squarely up to the farmers to make up their quota. New Mexico is expected to plant a minimum of 275,000 acres of winter wheat and to increase this amount to 283,000 if weather conditions will permit. The farmers of this state have thus far never failed to respond to every call their country has made in the present crisis, and there is not a shadow of a doubt but what the maximum acreage of winter wheat will be planted in this State this year.

### Fall Sown Wheat Furnishes Winter Pasture

Winter wheat is recommended in place of spring wheat because it is safer, and fall sown wheat has many advantages over wheat sown in the spring, in this State. It will ripen fully two weeks earlier, it will furnish winter pasture, and it requires less seed per acre because fall sown wheat stools better. Fall sown wheat economizes on labor, for the work of seeding can be done when the rush of summer is our, and it is harvested before the summer rush begins.

### Dry Farmers Use Too Much Seed Per Acre

Wheat is not very particular as to soil type so long as it is fairly well supplied with available plant food, and usually does best on a loam soil. Seeding with a drill is to be preferred, as the seed is thus more evenly distributed and placed in the soil at a uniform depth. Seventy-five to eighty pounds of good, clean seed per acre is sufficient in irrigated districts, and 25 to 40 pounds is usually enough under dry farming, depending upon time of planting.

The date of seeding depends on several factors, and no general rule can be given. Early seeding is usually best; especially is this true if the wheat is to be pastured. At the higher elevation earlier seeding is required than in the lower irrigated valleys. Winter wheat can usually be sown as late as October 1 in the higher altitudes, and up to December in the lower altitudes.

### Turkey Red Best Winter Wheat

Turkey Red is probably the most popular variety of winter wheat in this State, and yields quite well in most sections. However, several so-called spring varieties have given very good results when planted in the fall in some of the warmer sections of the State.

### Treat Seed For Smut

All seed should be treated for smut. An ounce of prevention is worth many pounds of cure. The treatment is very simple and yet very effective. Mix one pint of 40% formaldehyde with 40 gallons of water. The seed may be dipped into the solution in a basket or sack, or the solution may be sprinkled on the grain. The essential point is that all of the kernels are wet thoroughly. If the grain is sacked and dipped into the soultion it should be allowed to stand ten to twenty minutes, then placed so that it will drain back into the tank or barrel, then spread out to dry. If the sprinkling method is practiced, the wet grain should be made into a pile and covered with old sacks or a wagon sheet and allowed to stand for about half an hour. In treating oats and barley the latter should be done regardless of the method used in wetting the grain.

**Caution.** Care should be exercised not to contaminate the grain by placing it in the sacks from which the smutted grain was taken. Dip the sacks in the solution and thus kill all the smut spores. Wash the seed box and tubes on the grain drill with the solution before planting the treated grain.

Do not let the solution stand very long before using, as formaldehyde evaporates quite rapidly.

RUPERT L. STEWART

## WINTER RYE

Winter rye is becoming more popular with the farmers each year. There are several very good reasons for this. First, rye does not winter kill as readily as do most varieties of wheat and barley; second, it will do as well on a poorer soil as will the other small grains; third, rye is a soil builder; and fourth, it makes fine winter pasture for cattle, sheep or hogs and is not damaged by tramping.

Winter rye should be planted early. Mr. Francis E. Lester, a progressive farmer in the Mesilla valley, seeded a field to winter rye on the 10th of September, 1917. This was pastured with hogs almost continuously from Oct. 25 to April 5, when the hogs were taken off and the rye allowed to head. This was harvested June 20, yielding 47 1-3 bushels of well cleaned rye per acre. This, of course, is somewhat better than can ordinarily be expected with this crop, but it goes to show that rye is desirable from the standpoint of both winter pasture and grain, and that it should come into more general use, especially by the farmers in the warmer irrigated valleys of the state.

RUPERT L. STEWART

Swat the weeds and kill the seeds!

## AVOID SEED SHORTAGE NEXT YEAR

### Do Your Own Selecting Now

As the corn and cane crops begin to develop toward sound grain, farmers should watch the fields and prepare for careful seed selection when the grain is mature. It is a good plan to mark the stalks early that show vigor, early maturity and productiveness as evidenced by the number and size of ears on the stalk.

Good seed corn and cane seed were scarce the past season and as a result farmers had to pay big prices for this seed and in many instances were unable to get the variety or kind desired at any price.

This experience need not be repeated if each farmer will save some of the best seed grown this year for next season's planting. It is always a good plan to save more seed than is expected to be planted, for a good price can usually be gotten for the surplus and at the same time be lending a helping hand to some less fortunate farmer.

### Methods of Storing

The seed should be thoroughly dry before storing. If time or weather will not permit this, a good plan is to hang the ears of corn or heads of sorghum up in a dry room where the temperature does not reach the freezing point. The ears or heads can easily be strung on baling wire and suspended from the rafters in the ceiling, thus allowing air to circulate freely and dry the grain thoroughly and at the same time keep it free from rats and mice.

**Don't** put off field selection too long. Remember last spring's experience and rest assured that there will be as big a demand for seed next spring, as the campaign for increased crop production for next year has already been started, and if some of this season's crop is not saved for seed much difficulty may be experienced next spring in getting good seed to plant.

RUPERT L. STEWART

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## TORNILLO BEANS A GOOD FEED

In some of the valleys in the southern part of New Mexico there is this year a fair crop of the beans of the tornillo **(Strombocarpa pubescens).** These beans have for a long time been utilized by some for feed, and with present prices of grain, in some districts they can, no doubt, be fed to advantage. One of the farmers in the Mesilla valley had several tons of them gathered last year. at a cost of 90 cents per hundredweight, delivered at the granary. These were later fed to hogs, and while no records were kept, the results seemed to indicate that the beans were nearly equal to corn, pound for pound, for this purpose. Corn at the time was selling for about $3.25 a hundred.

The chemical compositions of tornillo beans barley, corn and wheat bran, as given, in Bulletin No. 17 of the New Mexico Experiment Station, are as follows:—

| | Percentage Composition | | | | | Per Cent of Digestible Matter | | | Nutritive Ratio |
|---|---|---|---|---|---|---|---|---|---|
| | Protein | Crude Fiber | Nitrogen-free Exact | Fat | Matter Organic | Protein | Carbohydrates | Fat | |
| Tornillo beans | 9.8 | 19.3 | 61.8 | 1.0 | 91.9 | 5.1 | 63.1 | .8 | 1:12.7 |
| Barley | 12.4 | 2.7 | 69.8 | 1.8 | 86.7 | 8.7 | 65.6 | 1.6 | 1:8.0 |
| Dent corn | 10.3 | 2.2 | 70.4 | 5.0 | 87.9 | 6.2 | 64.8 | 4.6 | 1:12.1 |
| Wheat bran | 15.4 | 9.0 | 53.9 | 4.0 | 82.3 | 12.00 | 38.9 | 2.9 | 1:3.8 |

So far as is known, no digestion trials have been conducted with the tornillo beans, and the figures in the above table, regarding digestible matter in this product, are estimates. The feeds mentioned have digestible matter, per hundred pounds, as follows: tornillo beans, 70 pounds (estimated); barley, 75.9; corn, 75.6; wheat bran, 53.8. However, the corn is much higher in fat than either the beans or barley.

The chemical composition indicates that the beans are a good deal better feed than bran, and probably approach kafir and barley closely in feeding value. When well matured they are relished by stock. When fed in large quantities, they are said to have a somewhat constipating effect, and as they have a wide nutritive ratio, alfalfa could be fed with them to advantage; especially to growing stock.

While grinding would be advantageous, on account of the hard seeds, which contain a considerable portion of the protein, many of the seeds are, evidently, crushed in eating, so that grinding is probably not as important as with the mesquite bean.

C. P. WILSON.

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Don't let your liberty bonds of the first three issues be lonesome. Add to them as many as you can of the fourh issue.

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"On your honor as a woman how much sugar do you **need?"**

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The prosperity of our farmers is very dependent upon the character of our seed merchants. An unscrupulous seedsmand can do world of injury to a farming community. There is no business which has such great possibilities of good or evil as has the seed business.

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**The Tractor Has Come To Stay.** It is like the silo. Once the farmer becomes accustomed to its use it will become a part of the regular farm equipment.

## New Mexico Bean Growers Association Completes Organization

Member representatives from all locals of New Mexico Bean Growers Association met at Las Vegas on August 15th and elected officers and directors for the ensuing year as follows:

Walter Martin, Mountainair,-President.

C. H. Gaylord, French,-Vice-President.

C. M. Melbourn, Estancia,-Temporary Secretary-Treasurer.

**Directors**

Walter Martin, Mountainair
C. H. Gaylord, French
T. N. Russell, Moriarty
F. W. Doolin, Optimo
J. M. Moss, Des Moines
A. C. Osborn, Clayton
A. Gonzales, Trujillo.

On Saturday, August 31st the directors met at Albuquerque for the purpose of chosing a permanent Seretary-Treasurer from a list of thirty or more applicants and to arrange for establishing a permanent office in that city.

Practically all important bean shipping points in the state will have been organized by the fifteenth of September

It is to be hoped that all growers will identify themselves with the local association at their nearest shipping point and prepare to market their beans through such local association. That action will make available the best market at the least cost and minimize competition.

Inquiries addressed to New Mexico Bean Growers Association, Albuqerque, New Mexico, will no doubt receive prompt attention.

(Signed) C. A. McNabb,
Field Agent in Marketing.

A county farm bureau is an institution for the development of a countv program of work in agriculture and home economics and for cooperating with State and Government agencies in the development of profitable farm management and efficient and wholesome home and community life for man, woman and child.

# County Agent Notes

## AGENT POWERS MAKES COUNTY BREAD BASKET WATER-TIGHT

**Agent of Socorro county saves at least $15,000 worth of wheat through control of smut. Gets farmers 120 miles from railroad to plant wheat and then organizes mill to grind out flour.**

County agent H. P. Powers of Socorro county has just completed a project on the control of "stinking smut" or "chapete" as it is commonly known among the Spanish-American farmers. In this work Mr. Powers tried out formaldehyde, bluestone and no treatment of the seed. A series of demonstrations were held and the farmers had an opportunity to study the effectiveness of this seed treatment. All of the plats treated with formaldehyde were found to be 100 per cent free from smut. From 3 to 11 per cent smut was found in the plats treated with bluestone while the plats that were not treated showed from 17 to 45 per cent smut.

It is estimated that fully $15,000 worth of wheat was saved as a result of the work.

### Community Puts Up Flour Mill

Another important piece of work done by Mr. Powers in connection with wheat growing was in the community of Reserve which is 120 miles from a railroad. Realizing the need for a greater production of wheat the farmers of that section planted a considerable acreage. When time for harvest came the people of this section realized that it was rather serious to have to haul this wheat 120 miles to market and that very little chance for profit in the venture was left.

The county agent was called upon to help solve the situation. Rather than to haul wheat 120 miles and then haul flour back the same distance he suggested that a small flour mill be purchased. Mr. J. R. Gaunt and others of Reserve fell in line with the idea and today a small mill is grinding out the flour. This will eliminate much hauling of flour into that section.

The flour that is usually shipped in to that section will be consumed "over there" this year.

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## COUNTY AGENTS PLEDGE THEMSELVES TO WINNING OF WAR

### Food Production Campaign Discussed At State College and Las Vegas Conferences. Farm Bureau Necessary for Best Results.

Two very important county agents conferences were held during the past month. The agents in the northern part of the State met at Las Vegas and those in the south half met at State College. Plans for food production for the coming year were discussed.

At these meetings it was clearly brought out that the Farm Bureau is absolutely necessary if the best results are to be obtained. An organization within the county made up of the men, women and children of the farms and ranches was found to be vital if the State and Federal agencies were to give their fullest cooperation. The 10 County Farm Bureaus already organized in New Mexico with a membership of almost 3000 families were most effective in this year's program. A membership Campaign will be conducted sometime this winter to increase the membership of these Farm Bureaus and more organizations will be perfected in other counties.

The following resolution was drawn up by the county agents in which they pledged and dedicated their lives to the winning of this war:—

Whereas, this nation is at war for the preservation of Democracy in the world:

And Whereas, food is vital to victory in this world struggle:

**Be It Therefore Resolved,** that we the County Agricultural Agents of New Mexico in conference assembled, hereby pledge and dedicate ourselves, our thought and energy, sincerely, heartily and unreservedly to the work of stimulating and increasing production of both animal and vegetable products: to all related war and governmental demands and to all authorized relief organizations to the end that our soldiers and allies shall not lack any essential of victory and that America, as ever undefeated, shall stand as a glorious ideal of democracy and freedom.

(Signed) H. H. BROOK
H. P. POWERS
J. R. THOMAS

Other resolutions asking for aid in the purchase of farm seeds and for the stockmen in the drouth stricken areas of New Mexico were also prepared and sent to the proper authorities.

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THE COUNTY farm bureau is an organized agricultural democracy, by means of which farmers and their families express themselves concerning all matters relating to the advancement of agricultural, home, and community life.

## WAR DEPARTMENT PRAISES COUNTY AGENTS

The following telegram was sent to all draft executives by Provost Marshal General Crowder following a conference with Secretary Houston of the Department of Agriculture:—

WAR DEPARTMENT TELEGRAM
Confirmation
Washington

"To All Draft Executives,
Number B-2207.

The Department of Agriculture views with special concern the evidences which reach it of action by boards in refusing deferred classification and in vacating deferred classification and order numbers of county agents employed by that Department. The Department is charged by Congress with the duty of stimulating economically food production along all lines. The extension machinery is the most valuable single agency for this purpose. It is difficult to secure men with the requisite vision and leadership. Institutions have not been training men a long enough time to permit the Department to man the force entirely by men over draft age. Great care has been exercised in selecting the extension agents. They are selected by the farmers' bureaus and the State college officers and recommended to the Department. The Bureau chief canvasses each case and reports to the Secretary of Agriculture, who carefully considers each record. The Department has been in the position of having to increase its forces by approximately seven thousand at the very moment when it was losing approximately six thousand of its most effective and trained employees. This emphasizes the difficulty of executing the tasks imposed upon the Department by Congress, including the enforcement of regulatory statutes, such as the meat inspection act, the food and drugs, the various quarantine laws, and the maintenance and development of the special emergency food production activities. I recognize the statutory authority of boards to decide these questions, but believe that the facts recited above, none of which is disputed, require that Boards give special consideration to certificates issued by the Department of Agriculture to County Agents. Promulgate this by telegraph.

(Signed) CROWDER."

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# Home Demonstration Agent Notes

(Edited by Tura A. Hawk, State Leader Home Demonstration Agents).

## CANNING IS CONSERVATION

Canning and drying of fruits, vegetables and meats is food conservation if the products keep. If they do not keep the fault is usually in the person doing the work, and most frequently the fault is the omission of some small thing, seemingly insignificant.

The first rule of all canning is, put a good, fresh, well prepared product into the jar or you will not get a good one out.

Second, work the product rapidly from the "plot" to the "pot" and be sure to handle it in a cleanly way, following every step in proper order.

Third, have your jars hot and sterile when the product goes in, process it long enough and hot enough to kill **every living germ** and seal the jar so tight no more germs can get in. If these simple functions are performed, the product will surely keep.

Our authority for the method of canning so products will keep is the NR Series for Boys' and Girls' Club Work, Nos. 21 to 30, or Farmers' Bulletin No. 839.

**Write for Farmers' Bulletin Nos. 839, 841, 916 and 984**

In the drying of vegetables you follow practically the same steps from the garden to the drier as you do from the garden to the canner, namely; gather fresh, prepare as for cooking, blanch, cold dip, remove excess moisture and place in the drier, instead of into the jar for canning. Dry as rapidly as possible, dry thoroughly, test by "conditioning" before packing away for keeps.

On drying get Farmers' Bulletins 841, 916 and especially 984.

The season for some things has passed, but there are lots of products which may yet be saved by canning or drying. The important thing is to get at it and do it before it is too late. Just realize the world's great need of food products and then do your best, not "bit", to meet it.

Some altitudes in New Mexico make canning difficult because of the boiling point of water and long fires. This difficulty is true only with the hot water bath canner or the common steamer. A pressure steamer (5 pounds is sufficient) is the solution. However, we have found housewives who have canned beans succesfully by the one period, cold pack method at an altitude of 6600 feet in three hours. That is worth while knowing and the fact should encourage others to try.

**Dried Products Have Better Flavor**

But, if you are afraid your canning will spoil, dry the products. All the vegetables which are cooked before serving can be dried. New Mexico can boast of her sunshine and dry atmosphere. As to the dried products, they are fine. I speak from experience with reference to sweet corn and garden peas. Except that the skins are slightly tougher, the products are more nearly the flavor of fresh corn and peas than are the canned products.

**Use Sirup or Honey nstead of Sugar**

Some are holding back on the canning because they can't get sugar sufficient for the fruits. Try canning with sirup or honey. If you can't get these, can the fruit without sugar and sweeten it afterwards. Can up your grape juice and make your jelly later when the sugar situation is easier. Send to the Extension Service, State College, N. Mex., or ask your county agent, home demonstrator, or county club leader, for a "Sugar Saving Program" by O. H. Benson and Gertrude Warren.

If you have raised the products, or if you can buy them for less than the cost of the finished product, then can and dry enough fruit and vegetables for your own home use! It is your patriotic duty to do it.

W. T. CONWAY,

## DRYING YOUR WINTER SUPPLIES

Because of the difficulty of canning vegetables in a high altitude, the Extension Department of State College urges the women of the state to dry all vegetables that they cannot store.

The products that can be dried to good advantage are corn, beans, peas, apples, peaches. The first essential is to have a good fresh fruit or vegetable. Use those that are injured on the table at once. Begin the process of drying as soon as the product is gathered. The vegetables should be plunged into boiling water for a short time and then into cold water.

**Write for Farmers' Bulletin No. 841**

Special instructions are given in Farmers' Bulletin No. 841 which will be sent on request.

In this state, all products can be dried in the sun but they should be protected from insects. A home made dryer can be made easily—using wire covered box with wire trays. When trays are used without the box covering, they can be covered with mosquito netting.

Store in pits all the vegetables possible. Dry only those that cannot be stored. Make pastes and leathers for winter use of tomato, apple, peach, etc.

**Write for Extension Sheet No. 4 for Directions**

Use tomatoes, onions, and cabbage in pickle and sauer kraut. **Write for Extension Sheet No. 3 for directions.** (These sheets are also printed in Spanish)..

Have as your aim the preservation of sufficient fruit and vegetables for the use of your family until next year.

# Boys' and Girls' Club Work

(Edited by Charles Orchard Smith, State Leader)

## FIFTY BOYS AND GIRLS BUY HOLSTEIN CALVES

### Each Club Member Raises an Acre of Crop to Pay For Calf

The boys and girls of Union County are fully alive to the problems confronting the farmers of this region. They have decided that the old method of grain farming where the grain and crops are sold off the farm is a failure. Also that the keeping of cattle alone for their increase is not the most profitable operation. They have come to the conclusion that general farming along with a small herd of dairy cows, a few hogs and some chickens is the only safe method for this county.

With the assistance of Mr. H. S. Nicholson they began to plan ways and means of securing livestock to begin with. They decided that the best way to make a success of anything is to grow into it instead of going into it. So it was decided that they would buy calves to begin with but they would have to borrow money to do so. Mr. Nicholson being alive to what was being done in other states to help the boys and girls buy pigs, calves, sheep, etc., got in touch with Mr. E. T. Meredith, editor of Successful Farming, Des Moines, Iowa. He explained the proposition to him and asked his help. Mr. Meredith, always a friend to the boys and girls at once promised to loan the money to buy the calves.

The county agricultural agent found that they could secure high grade Holstein calves in Wisconsin and lay them down in Des Moines for $25, so each made out a personal note for $25 to Mr. Meredith.

Fifty black and white calves were received at Des Moines, New Mexico, by the county agent and turned over to club boys and girls.

What this movement is going to mean to the future development of the County remains to be seen but we feel that it is a step in the right direction Farming along with dairy cows, hogs and chickens together with a silo has been the royal road to success in farming in all parts of the world.

Each member is raising an acre or more of crop under club supervision which he intends to make pay for the calf this fall.

The action of the Malpie calf club has stimulated the idea of stock improvement among farmers and some are already ordering Holstein stock and many others are planning on buying better stock than they now have, in the near future.

ORREN BEATY,
Union County Agricultural Agent.

# "TELL SOME ONE"

THAT all the young men over eighteen and under twenty-one years of age, under provisions of the new man power law, should enroll in the New Mexico College of Agriculture and Mechanic Arts at once, register on September 12, and come to the College September 30; when they will be inducted into the Army and will have commutation of rations, all expenses and $30 a month pay, and can attend the best equipped school in New Mexico.

All other departments of the College go on just as usual.

For full particulars, write

**President AUSTIN D. CRILE,**
**STATE COLLEGE, NEW MEXICO**

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UNIVERSITY
DEC 1918

# THE NEW MEXICO FARM COURIER

VOL. VI. | OCTOBER, 1918 | No. 11.

IF "FOOD WILL WIN THE WAR," IT HAS TO BE PRODUCED FIRST, AND THAT IS THE FARMER'S BIG JOB.

Published Monthly by the
Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M.

In Cooperation with the U. S. Department of Agriculture

# *The New Mexico Farm Courier*

Published monthly by the New Mexico College of Agriculture and Mechanic Arts and sent free of charge to residents of New Mexico on application.

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AUSTIN D. CRILE, President of College.
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY, Director of Extension.

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J. G. Griffith, Cereal and Forage Pests.

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Gertrude Espinosa, Assistant.

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Lucille Woodard, Chaves Co., Roswell.
Wilma D. Evans Hoyal, Colfax Co., Raton.
Sarah Van Vleck, Valencia Co., Belen.

# EDITORIALS

## KEEP YOUR CHILDREN IN SCHOOL

The following is a letter from President Wilson to the Secretary of the Interior, the Hon. Franklin K. Lane, relative to why educational work should not be neglected:

My dear Mr. Secretary:

I am pleased to know that despite the unusual burdens imposed upon our people by the war they have maintained their schools and other agencies of education so nearly at their normal efficiency. That this should be continued throughout the war and that, in so far as the draft law will permit, there should be no falling off in attendance in elementary schools, high schools or colleges is a matter of the very greatest importance, affecting both our strength in war and our national welfare and efficiency when the war is over. So long as the war continues there will be constant need of very large numbers of women of the highest and most thorough training for war service in many lines. After the war there will be urgent need not only for trained leadership in all lines of industrial, commercial, social and civic life but for a very high average of intelligence and preparation on the part of all the people. **I would therefore urge that the people continue to give generous support to their schools of all grades and that the schools adjust themselves as wisely as possible to the new conditions to the end that no boy or girl shall have less opportunity for education because of the war and that the Nation may be strengthened as it can only be through the right education of all its people.**

Cordially and sincerely yours,

WOODROW WILSON

Hon. Franklin K. Lane,
Secretary of the Interior.

## A GERMAN WHO THINKS

I am German born. My father and his fathers before him for centuries lived in Prussia and worked hard all their lives. Not one of them ever came to own enough Prussian soil to fill a tin can. When we were grown my father came with us to Kansas. Every one of his four boys has worked just as hard as ever their forefathers worked in Prussia, but everyone of them has become rich because he worked in a country where a free man has some chance. I have two sons and seven nephews in the Army. One of my boys is in France. We know what these Prussian military autocrats want to do in the world, and we are glad to fight hard to prevent it.—Statement recently made by a German woman now in this country.

## REQUEST

The edition of Bulletin No. 110, entitled "Nine-Year Band Record of the Colding Moth," by Professors Rigney and Fite, has been exhausted. Because of the present war conditions, we wish to avoid a new edition, and kindly request any person who has this bulletin and has finished with it, to hand the same to the county agricultural agent of the county or mail to the President's Office, State College, N. M. Any postage incurred will be gladly paid by the College.

# Livestock

## A DOUBLE CROP OF LAMBS

A good illustration of what a small flock of sheep may do on a farm may be seen in the Rincon Valley. A farmer there has been keeping from 50 to 150 head of sheep for a number of

Courtesy of the D. & R. G. Ry.

Some High-Class Lambs Raised Near Farmington, San Juan County, New Mexico.

years. He feeds no grain, and but little roughage, aside from what the sheep get from the waste of the cultivated fields and the pastures, which include bottom land not suitable for cultivation and the adjacent hills. This farmer is producing two crops of lambs annually—in the spring and in the fall. He finds that a large per cent of his ewes will produce lambs twice a year, and that practically all the ewes that are yearlings in the spring give fall lambs.

This flock is only a few generations removed from the Mexican sheep, and some of the older ones still show the Mexican characteristics quite markedly. The improvement has been made by the use of fairly good Rambouillet rams.

It may not be considered best to attempt to produce two crops of lambs annually; but the practice of this farmer indicates that by proper management a farmer may have the lambs come at any season of the year that he consider most desireable.

This farmer has also practiced shearing twice annually, but has given that up as unprofitable.

LUTHER FOSTER

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## THE FLOCK FOR THE COMING WINTER

It is not an uncommon thing to see hens which indicate the age of four to six years and still in the running for another year or so before they just naturally die. If the old hens have not already been culled from the flock it is not past due time to dispose of them. The one and two year old hens together with the pullets should be given every fair opportunity to make good and not be handicapped by a few old hens who are past the profitable producing period. The matter of selecting the pullets should be given careful consideration. Watch for the pullet that is thin and shows no vigor and dispose of her.

Chicken pox is likely to make its appearance at this time and if noticed before its effects begin to tell on the pullets one or two applications of carbolated vaseline will rid the birds of it. As a matter of good practice the chicken houses should be given a thorough cleaning before the pullets are old enough to begin laying. Dirt floors should be spaded out for at least five inches and new soil put in to make a clean floor. Stick-tite fleas make their home and rear their families in the dust and dirt so the most effective way to clean them out is to destroy the breeding grounds. At the same time all chickens having the fleas on the head should have a little kerosene applied to parts infested with fleas in order to kill those on the fowl. A vigorous campaign for a clean chicken house at the beginning of winter will assure a clean chicken house through the winter because parasites abiding in the house do not breed readily during the cold weather.

For more eggs this winter, select the pullets and hens carefully, clean the house thoroughly and feed abundantly and properly.

R. B. THOMPSON.

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## "DOÑA ANA" and "BETSY ROSS."

### Names of the Two Highest Producing Hens at State College

The persons who were given the list of names submitted for the hens A16 and A256 have voted upon the name of Doña Ana for the White Leghorn and Betsey Ross for the White Wyandotte.

The name Doña Ana was submitted by Mrs. Frank J. Wright, Silver City and the name Betsey Ross was submitted by R. C. Bonney, Cimarron. The cockerels offered as premiums will be sent to the winners immediately.

Egg production is a very important thing to the farmer or person having a few chickens. One of the methods of securing good egg production is to breed for it. To this end the College Poultry Department has for distribution a limited number of cockerels at the price of $2.50 each f.o.b. the College. Cockerels of the following breeds are available:—White Leghorn, White Wyandotte, Barred Plymouth Rock, and Single Comb Rhode Island Red. It was anticipated that the price would be $3.00 this year but the price will remain at $2.50. In ordering cockerels, checks or money orders must accompany the order. If it is not possible to fill the order the money will be refunded promptly.

Market white-shelled and brown-shelled eggs in separate packages. Uniform products command the best prices. Never market small or dirty eggs.

A device for candling eggs is so easy to make that every farmer should have one. A small box with a hole about an inch in diameter in the side is all that's needed. Place a lighted lamp inside the box and your candler is ready for ue.

# Fruits And Truck

## SUGGESTIONS ON STORING CABBAGE

The old familiar method of digging a trench placing the cabbage in it head down, and covering with soil, is so simple and effective that it has been used successfully f r years. However, there are certain fundamental principles, such as moisture and temperature which are sometimes overlooked, causing a loss of the cabbage.

Cabbage must be kept moist and cool, but not all varieties keep equally well, and a given variety will keep better when grown under certain conditions than under others. On the whole, an early variety, planted late and grown during the cool weather, will keep better than a late variety planted earlier and grown partly in hot weather. It will be necessary for the grower to determine by trial which variety will keep best in his locality.

Allow the cabbage to stand as late in the fall as it can without being injured by freezing. Be sure to have the ground moist where the cabbage is to be stored. If necessary, irrigate the place a few days previously. Select heads, not too hard (as the hardest heads very often burst before spring), and put them in the trench early in the morning while the ground is cold. Trenches may be dug the day before they are needed, in order to have them ready early the next morning. The depth of the trench will vary according to the locality. In warm, dry regions have the trench deep, and in sections where there is considerable rain and snow have it shallow, so that when the cabbage are covered there will be ridges for shedding the water. The cabbage should be covered, roots and all, at least six or eight inches deep, or deep enough to keep them from freezing where it is cold and also enough to keep them moist and cool in the dry hot regions. In the higher altitudes it will be well to cover the trenches with straw or leaves, after the dirt has been thrown over the cabbage.

Where only a small quantity of cabbage is to be stored the trench may be located in the shade of some building. Regardless of the amount, it is well to have the trench located on the north side of a building, a fence, or some object which will afford shade, as th will keep the ground of a more uniform temperature. It is important that the cabbage be kept cool and moist, and never be allowed to become heated during the day, as this will cause them to decay. On the other hand, it is important that they should not be allowed to get wet, as this will also cause them to decay.

Cellars, dugouts, and other housing mediums may be used for storing cabbage; but it is important that cellars for this purpose should be quite a distance from the dwelling because under the very best conditions some of the cabbage will decay. Decaying cabbage under a dwelling is extremely disagreeable, and is also injurious to health.

Cellars and dugouts offer so nearly the same conditions for storage that they may be treated as the same. When placing cabbage in a cellar it is well to put a row across one side or end, roots down, and cover the roots with moist sand. Leave the heads uncovered, and keep the temperature as near 32 degrees F. and as near constant as possible. The temperature may be controlled reasonably well by opening doors and windows at night for cooling, and in the daytime for warming; but do not infer from this that the windows and doors may be opened for the entire night during freezing weather.

It will take a few trials to determine the best variety, the time to plant it, proper depth of trench, the depth to cover, and other factors of this nature, as no fixed rules apply to all conditions in New Mexico.

There are other methods of storing cabbage, but they are not so suitable for the New Mexico farmers as those discussed herein. Where it is necessary to put cabbage on cold storage it will be well to remove the roots, outside leaves, and the stalks. The heads should be hard, since they are dormant, and will not fill out any while in storage.

J. W. RIGNEY

## FALL PRACTICE FOR INSECT CONTROL

Gardens full of weeds, rubbish, and crop remnants furnish excellent places for the hibernation of many kinds of insects. As soon as the crop is off cut or pull the plants if they are large and burn them. Weeds should not have been allowed to grow, but if they are there of course they should be destroyed, too, Then plow or spade up the patch. This destroys quantities of the insects if they have been on the plants and does away with the hibernation places. If there are present such insects as the squash bug and cabbage bug, it would be well to leave a few plants as trap crops after the rest were destroyed. The congregated insects could then be killed. When all crops are off give the whole garden a good plowing in the fall and again in the winter if possible.

If the corn stalk-borer has been in the sweet corn, dig up the roots of the corn and burn them for this insect winters over there. If the corn earworm or cutworms were present, the plowing destroys them in the ground in the pupa or larva stage.

This clean up and plow up practice is good not only for insect control but is the best practice for the soil as well. The same practices apply to larger crops outside of the garden.

By common application of the above most of the worst garden pests may be reduced very materially—squash bugs. cabbage bugs, melon lice, bean beetle, corn stalk-borer, corn ear-worm, cutworms and flea beetle.

D. E. MERRILL,

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## PECAN TREES AS FILLERS

One of the farmers in southern New Mexico recently decided to use pecan trees as fillers in a pear orchard that he expects to set out the coming winter,—a plan that has been followed to some extent in the past in this and other parts of the country. Where the soil is not too sandy and the water supply is regular and abundant, but the water table not too near the surface, this would seem to be a very good plan to follow. It is very doubtful, however, if it would pay, as a rule, to set pecan trees where the water table is within six or seven feet of the surface; as the trees would probably be rather short lived, if they grew at all. They, apparently, will not tolerate much alkali; and the authorities seem to agree that they will not do well on a soil that is in a saturated condition most of the time.

By placing the pecan trees 60 feet apart in a peach, pear, or plum orchard, they would displace only about eleven per cent of the fruit trees; or twenty-five per cent if placed 40 feet apart. This is on the assumption that the planting was done on the square plan, with trees 20 feet apart. By the time the fruit trees were past their usefulness, the nut trees—if proper varieties were selected and good care taken of them—should be bearing well. Such a pecan grove should not cost a great deal and would have a tendency to make the owner better pleased with the farm.

The selection of varieties is very important. During the past three years the New Mexico Experiment Station has been experimenting with eighteen varieties of pecans. As yet it is too early to state definitely which of these will be best for this section, but the Success, Venus, and Indiana seem to be three of the most promising. There is a strong tendency for many of the varieties to die back badly during the winter, and some of them are evidently not well adapted to the conditions that exist in this part of the country.

C. P. WILSON

# Farm Crops

## IS IT AS WARM IN THE COUNTRY AS IT IS IN THE SUMMER TIME?

The question is often asked as to which is the hottest month in New Mexico. Most of the old settlers will say that June is the hottest month, while some will maintain that July is, and that the people don't notice the heat so much because they have become accustomed to it.

The only satisfactory way to settle such a question is to refer to the weather observations. Maximum and minimum temperature readings have been made at the New Mexico Experiment Station for the past twenty eight years; and, in studying the figures for the past ten years it is found that the temperature reaches 100 degrees Fahrenheit, or over,, on 19.08% of the days in June; 15.04% in July; and only 10.47% of the days in August.

**Hottest Weather From June 15-July 15.**

In studying the records closely it is found that the hottest weather is always the period between June 15 and July 15. In the past ten years the temperature has reached 100 degrees, or more, 86 times, and 66 of these were between these dates. After July 15 the weather moderates,—that it, there are usually no extremely hot days. This is due partly no doubt to the fact that the number of cloudy days increases, which has a tendency to cool off the air some, as it keeps the sun's rays from beating down with such force, and then, too, the days grow shorter and the nights longer, giving more time for the atmosphere to cool off.

Although the day temperatures are some times very high, the mercury begins to drop as soon as the sun sets, and the nights are most always cool. The average range during the summer months is about 30 degrees. (Range is the differences between the maximum and minimum in the same twenty four hours.)

These figures are only for the southern part of New Mexico; in fact they were compiled from the readings at one Station only, but it is quite likely that they will apply pretty generally to a large part of the state.

RUPERT L. STEWART

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## DEFINES PROFITEERING AND HOARDING OF FARM EQUIPMENT

Washington, D. C. Oct. 10.—Selling goods on a replace value basis in certain cases will be considered profiteering, according to a statement issued today by the Office of Farm Equipment Control of the U. S. Department of Agriculture, which administers the licensing of the farm equipment industry under the Food Control Act.

Farm equipment held, contracted for, or arranged for, by any manufacturer, wholesaler, retailer, or other dealer, in excess of the reasonable requirements of his business, for use or sale by him in a reasonable time, is considered hoarding, under the meaning of the Act of Congress approved August 10, 1917, to provide further for the national security and defense by encouraging the production, conserving the supply, and controlling the distribution of food products and fuel.

Any farm equipment that is hoarded cannot be considered under this ruling, the statement says, but will be dealt with under the Act, according to the merits of each particular case.

The prices of farm equipment are more or less seasonal, but if the price should rise or fall during the season, then, to be consistent, a person who wishes to sell on the basis of replacement values would be obliged to sell at a loss if the price fell. Equipment carried over from one to another—that is, the residual from a previous season's reasonable supply—should be considered in the same manner. Therefore, if persons have sold at replacement values, they must continue to do so when a drop in prices comes and carry the same amount of stock as in the beginning throughout the period of the high prices in order not to profiteer.

In short, says the statement, it will not be considered profiteering if farm equipment is sold on the basis of replacement prices, provided the goods sold are replaced at once; replacement prices and this practice is continued during the period of high prices caused by the war.

It will be considered profiteering if manufacturers, wholesalers, retailers, or other dealer, having a regular stock of farm equipment, sell out at replacement value during rising prices without replacing the stock or intending to replace it, and selling at replacement values when prices are falling. Manufacturers, wholesalers, retailers or other dealers, desiring to sell out without replacing, should sell at cost price plus a fair usual profit.

It will be considered hoarding if any manufacturer, wholesaler, retailer, or other dealers, having a regular stock of arranges for a quantity of farm equipment in execess of the reasonable requirements of his business for sale by him over a reasonable time. Manufacturers, wholesalers, retailers, and other dealers finding themselves inadvertently in this position should sell at cost plus a fair usual price.

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In 1917, smut destroyed twice as much corn in the United States as was exported.

## EELWORM OR NEMATODE DISEASE OF WHEAT

### Heavy Losses Occurring in Virginia and California

A serious disease of wheat long known in Europe and caused by the Nematode or Eelworm, **Tylenchus tritici,** has been recently found causing serious damage in many localities in Virginia. It is also present in one region in California.

### Description

The disease is usually noticed by its effects on wheat heads in the field. Diseased heads ordinarily stay green longer and are smaller than those not affected and the chaff is apt to open out at a wider angle than that of a good head. In place of the expected good grains of wheat the head bears dark, hard galls shorter than the wheat grains. As these galls bear a resemblance to cockle, the seed of a common grainfield weed, farmers have mistakenly applied the name "Cockle" to these galls, and "cockle wheat" is a common term for the disease in the thrashed grain. Sometimes it has been mistaken for bunt, or stinking smut. But a careful examination of these different troubles will show that this nematode disease is entirely distinct from them.

### Disease Caused by Nematode

Within these wheat galls are thousands of living but motionless young nematodes called larvae, which can be barely seen as short, threadlike fibers when placed in water. In the spring these young eelworms or larvae escape into the soil from the galls which have fallen to the ground or which have been planted along with the wheat seed. With an eel-like movement they reach the young seedlings, finally become located between the leaf sheaths near the bud, and as the plant grows are gradually carried up to the heads. There they enter the young flowers of the wheat transforming the kernels into dark hard galls, within which they reach maturity, lay eggs, and again give rise to larvae, and in this way complete their life cycle.

### Distribution of the Disease

Although known to occur at present only in Virginia and California it is not improbable that the disease has been introduced into other wheat growing localities in seed imported from other states. The disease may very easily have escaped detection as the growing plant is not injured, the head is not changed in appearance to the casual observer, and even the galls in threshed wheat are easily confused with other diseased conditions mentioned above. In Virginia the disease is serious, causing a loss in many fields of from 25-50%.

### Control Methods

As the disease is not native to the United States, every effort should be made to prevent its further spread within this country. It may be controlled by the measures suggested below:

1. Secure clean, sound seed from fields in which the disease does not occur and therefore seed unmixed with the nematode galls.

2. The galls may be separated from the wheat kernels as follows: Pour slowly the mixture of seed and galls into a suitable receptable containing water, and at the same time stir vigorously. Being lighter than the wheat kernels and the water, the nematode galls will quickly rise to the surface, where they can be skimmed off.

3. Land on which nematode-infected wheat has been grown should be planted to other crops for three years. Any crops may be used in the rotation, since only wheat is known to be seriously attacked by the disease.

4. Specimens of blackened kernels should be submitted to the New Mexico Agricultural Experiment Station, State

College, New Mexico for microscopic examination in all doubtful cases.

5. For further information write to the U. S. Department of Agriculture, Washington, D. C. for a circular on "A Serious Eelworm or Nematode Disease of Wheat" by L. P. Byers.

FRED C. WERKENTHIN,

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Out of the last harvest the American people by abstinence, saved 140,000,000 bushels of wheat to feed the hungry Allied nations. The indications are that these same people are going to stay right on the sugar job and see it through.

The **diligent** farmer **plants** trees, though he himself might never see the fruit!

There is one kind of aristocrat which no one need fear—the cattle aristocrat. Carnation King Sylvia, a six months' old member of the Holstein family, sold the other day for $106,000, a record price.

Pig men who know tell us that a 200-lb. hog will dress away 25 per cent; that a 300-lb. hog will dress away 20 per cent.

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The farm bureau is the recognized agency through which the State agricultural college and the United States Department of Agriculture will cooperate in all extension work in the county, whether that work be with farm crops, farm animals, or the problems of the home and community life.

# Farm Bureau News Notes

**"The county agent as the Farm Bureau manager is the captain of America's organized soldiers of the soil".**

## THE FARM BUREAU.

The Farm Bureau idea is making a substantial growth in New Mexico. The Luna County Farm Bureau was brought into existence recently, which makes ten counties in all in this state that have such organizations. In some counties these organizations are under different names as Farm and Live Stock Improvement Association, Farmer-Stockman Bureau, etc., but if it is being fostered by the county agent in a county it is substantially a Farm Bureau.

The Farm Bureau as a county-wide agricultural organization has been in operation in some states for more than six years. The general scheme of organization is the natural outgrowth of the experience derived from agricultural associations from their first origin. It is the most efficient and most practical farm organization known in the United States today.

In order that the Farm Bureau organizations that are already perfected in New Mexico might thrive it is necessary to have a large membership. Why an individual should become a member of a Farm Bureau is very well stated in the following article taken from a recent issue of the COUNTY AGENT:

### Why You Should Join Your Farm Bureau Association.

1. Membership gives opportunity for self help, the best kind of help.

2. The investment of a few dollars for dues secures a proprietary interest in the bureau, bringing each member in close touch with it, so that he helps to choose its officers and determines the kind of work it shall do.

3. Membership pledges moral support, thus leading others to cooperate in building a strong organization.

4. The country is at war, and joining the farm bureau is an effective way of serving because of the success of our cause depends on a successful

agriculture.

5. The member's dues help to support his own organization.

6. The bureau helps to secure better markets.

7. Through demonstrations the bureau helps to secure better paying crops and stock.

8. Practically every county farm bureau organization has a monthly news publication or bulletin which is worth more in itself to the member than the membership fee.

9. Each member has a definite part in carrying out a permanent program of agricultural development for his county.

10. The farm bureau can help with beneficial legislation.

## A JOB FOR FARMERS' ORGANIZATIONS

The danger of adverse legislation is not likely to confront any legitimately conducted business, during the reconstruction period after the war, unless that industry is misapprehended, is the opinion of R. M. Green of the University of Missouri College of Agriculture.

That the status of the farming industry might be misunderstood is at least credible in view of the public expressions here and there regarding the present prosperity of farming. Farmers' organizations of whatever kind could do no more appropriate piece of work than to prepare themselves with reliable information concerning the business they represent.

Figures secured by the Missouri Agricultural College from cost account records kept by farmers tell a very interesting story with regard to approximate average profits from corn as a cash crop in Missouri over a ten-year period. Taking average yields for the State and applying the cost data collected from farmers' accounts the profit per acre on corn, above the cost of production, has averaged as follows:

| Year | Profit per Acre | Price per Bu. |
|---|---|---|
| 1907 | $ 3.42 | .45 |
| 1908 | 3.94 | .56 |
| 1909 | 3.28 | .56 |
| 1910 | 2.71 | .43 |
| 1911 | 3.34 | .58 |
| 1912 | 2.53 | .46 |
| 1913 | 0.17 | .74 |
| 1914 | 1.30 | .68 |
| 1915 | 2.95 | .57 |
| 1916 | 1.89 | .90 |
| 1917 | 19.93 | 1.14 |

If removal of fertility were counted in the cost there would be no profit except in 1917.

Farmers' organizations should collect for their own communities just such information. Where there are county agents representative data from the whole county could be collected and kept on file at the central office. Farmers' organizations will find no little use for such information if they are "on the job".

Word has been received from Lieut. W. A. Gardner, formerly county agent of Lincoln county. He is instructor in aviation at Brooks Field, San Antonio, Texas. He also informed us in his letter that Lieut. R. R. Robinson is instructor in aviation at Lake Charles, Louisiana. Robinson was county agent of Chaves county.

Farmington, San Juan county made a step in the right direction when its town board passed a Clean Milk ordinance. Let every milk consumer see to it that it is carried out to the letter.

Farm Bureau Picnics are becoming popular. The San Juan and Colfax county Farm Bureaus, two wide awake organizations, held picnics in August, each having an attendance of close to 1000.

Farmers are learning that prosperity is likely to follow cooperation.

County agents J. G. Hamilton and Leslie P. Briggs of Bernalillo and De Baca counties, respectively have resigned their positions to enter the Officers Training School, Field Artillery, at Camp Zachary Taylor, Louisville, Kentucky.

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In building a substantial structure of agricultural betterment, the farm bureau, which at first the builders rejected, has become the head of the corner, and the county agent, no longer a mere farm adviser or dispenser of embalmed knowledge, is the recognized local leader of the educational forces, county, State, and National, for the upbuilding of a more prosperous farm business and a more wholesome and satisfactory home and community life.

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### Farm Bureaus in New Mexico to Fight Smut of Sorghums

Dr. George W. Martin, smut inspector for the U. S. Department of Agriculture, spent a month in New Mexico during which time he visited practically every county. In each county he visited from ten to twenty fields of cane, kafir, broom-corn and allied crops with the county agent to ascertain the extent of smut infestation. According to reports smut was found rather generally in these crops over the state. A number of Farm Bureaus and county agents are planning a campaign for 1919 to reduce and if possible eliminate the loss caused by smut.

Everyone growing these crops can secure help from the Farm Bureau or county agent in the matter of treating the seed for smut control. A conservative estimate of the loss caused annually by the smut disease to the sorghum crops of New Mexico would be $350,000.

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### 750 Farm Bureaus Organized for War Farming

Seven hundred and fifty farm-bureau organizations, with a membership of 287,808 of the most practical farmers of their counties, are now organized in the 33 Northern and Western States to help direct county-agent work and to develop the war program. A marked expansion of 500 additional counties, with an increased membership of 191,670 is representative of the work accomplished during the year ending June 30, 1918. The farmers themselves are now planning a large part of the war work conducted by the county agents of the United States Department of Agriculture.

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## Home Demonstration Agent Notes

(Edited by Lura Dewey Ross, State Leader Home Demonstration Agents)

### Mrs. Lura Dewey Ross Appointed State Leader

Mrs. Lura Dewey Ross has been appointed State Leader of Home Demonstration Agents and Head of the Department of Home Economics with the Extension Service Division of the New Mexico State College and Mechanic Arts.

Mrs. Ross is not a stranger to the people of New Mexico for since coming to the state last March as Emergency Home Demonstration Agent, she has given demonstrations in one third of the counties and has been so successful that return dates have ben requested.

Mrs. Ross is especially well qualified to fill her new position. She is a graduate of the University of Idaho, receiving her degree of Bachelor of Science in Domestic Economy in 1909 and since graduating has constantly been in educational work. She introduced home economies into the High School at Lewiston, Idaho and for four years was head of the department, spending her summer as demonstrator for the Portland Power, Light & Gas Company and the Washington Electric Company. She came to New Mexico from Moscow, Idaho, where she had been for five years Head of the Home Economics Department.

To many of the people of New Mexico Mrs. Ross needs no introduction. Her strong personality and love for "just folks", has made her a favorite in every community in which her work has taken her and her friends will all rejoice to know of her promotion. The Extension Department is indeed fortunate in securing so practical a woman as Mrs. Ross to direct the Home Economics work in the State.

Mrs. Ross is the wife of Licut. John T. Ross, S. R. C. A. S., who is now in France helping to make the world a decent place for his worthy wife to live in.

Mrs. Ross succeeds Miss Tura A Hawk, who has recently been made Dean of Women and Head of the Home Economics Department of the New Mexico State College.

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## Miss Tura A. Hawk Leaves Extension Service

Miss Tura A. Hawk who for the past year has been State Leader of Home Demonstration Agents in New Mexico, has accepted the position of Dean of Women and Head of the Home Economics Dept., of the New Mexico College of Agriculture and Mechanic Arts.

Miss Hawk needs no introduction to the people of New Mexico, having visited nearly every town in the state, where she has made many friends who will be glad to know that she is not leaving the State.

Miss Hawk is especially well qualified for her new position. Her personality, training and experience insure hearty cooperation with the young women of the College. She graduated from Iowa State Teachers College, 1905 with a degree of B. D. In 1916 she received the degrees of B. S. in H. E. and B. S. in Ag. Ed., from Iowa State College. During the summer sessions she was instructor in Poultry Husbandry at Iowa State College. After graduation Miss Hawk was assistant Home Demonstration Agent in Iowa and the next year she was Home Demonstration Agent, Black Hawk County, Iowa.

The Extension Work will lose a very capable leader, while the College will gain a good organizer and hard worker. Miss Hawk took up her new duties at the opening of the College year on October first.

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## CANNING TO WIN THE WAR

Any fruit may be canned without sugar. Sugar is not necessary for its preservation. The sugar is added for flavor. Fruit may be canned in water, or in fruit juice. Follow the One-Period Cold-Pack Method for canning fruits, filling the jars after they are packed with boiling water or boiling fruit juice instead of boiling syrup. If fruit is canned in fruit juices, the juice from the small imperfect fruits may be extracted and used, or fruit juices from different fruits. Apple and grape juice may be used with other fruits. Fruits cooked in water in open kettle do not hold their shape, so it is advisable to pack fruit and sterilize in jars. When the fruit canned without sugar is opened for use later, do not add the sugar cold, but drain off the juice, add the sugar and let come to the boiling point, then pour over the fruit. This brings out the flavor and makes a much more palatable dish.

### Use Sugar Substitutes

Corn Syrup, honey and Piloncillo (Mexican sugar), can be used as substitutes for sugar in making syrups to be used in canning fruits. Use white corn syrup in the proportions of ½ c. corn syrup and ¾ c. boiling water for the sweeter fruits, and for the more acid fruits use ¾ c. corn syrup and 1 c. boiling water. These proportions should provide sufficient liquid for one qt. jar of fruit. Honey may be used in the same proportions. In using piloncillo, the amount is reduced. When a recipe calls for 1 c. of white sugar use ¾ c. of piloncillo. This may be used for canning also. It makes it much darker in color but gives a good flavor.

In making jelly use honey, white corn syrup or piloncillo. One half cup of honey to 1 c. of fruit juice makes an excellent jelly. Use ⅜ c. of sugar and 3 T. of white syrup to each glass of juice. The piloncillo makes a jelly that is darker and not so clear. Use ⅜ c. of piloncillo, and ⅜ c. of white sugar.

For butters, jams and marmalades the dark corn syrup, honey, piloncillo and corn sugar may be used sucessfully. The following proportions will give good results: 8 qts. of pulp to 2 lbs. of piloncillo; ¾ c. dark corn syrup to 1 c. pulp; 2c. corn sugar to 3 c. pulp. Corn sugar has a tendency to give a bitter flavor, this can be overcome by using it in butters with the addition of spices.

LURA DEWEY ROSS

## SEVEN NEW BULLETINS

Seven new home economics bulletins are ready for distribution. Have you written for yours? A post card addressed to Extension Service, State College, New Mexico, will bring you any or all of these new bulletins and put you on the mailing list for further publications. Which of the following do you wish?:

Extension Circular No. 37—"Salads".

Extension Circular No. 38—"Pinto Bean".

Extension Circular No. 38—"Meat Saving".

Extension Circular No. 40—"Soups".

Extension Circular No. 41—"Sugar Saving".

Extension Circular No. 42—"The Potatoe".

Extension Circular No. 43—"A Whole Dinner in One Dish".

## LITTLE WAYS OF SAVING FATS

Use bread and butter plates—yes, even if you do your own dishes. Every bit of left-over butter or margarine can be saved this way. It can't be, or isn't always if put on the dinner plate.

"Taboo all recipes which say 'fry in deep fat'."

Save rinds from bacon, ham and other meats and try them out.

Before washing butter jar, or any other dish that has held fat, set it on the stove. Particles clinging to sides and bottom will melt and can be poured off.

When you use nuts in any way, consider them fats and don't duplicate with other fats.

Don't grease your pancake griddle. Cakes can be baked without fat on just an ordinary griddle if it is the right heat.

When serving gravy with mashed potato, don't put any butter in potatoes. Simply beat them up light with milk.

Don't serve gravies and meat soups too rich. Skim off some of the fat for another day.

Don't put butter or other fat in dressing for poultry. If it is a fowl worth buying, it has fat enough of its own to season dressing.

Save oiled wrappers around bread, butter, etc., and use them to line cake and cooky tins.

AMERICAN COOKERY

# Boys' and Girls' Club Work

(Edited by Charles Orchard Smith, State Leader)

## THE STORY OF A PIG

By Herself

I was very happy in the sty with my mother and brothers and sisters, but I was not so happy when I learned that my brother and sisters and I were to take a long journey to a town named San Marcial.

A man named Mr. Powers came and put us into a strange thing called an automobile. At first we were frightened at the noise it made, but we soon got used to it.

When we got to San Marcial Mr. Powers drove the automobile up in front of a building called a school house where some boys got into the automobile, then they drove over to a place called a store, "umgh, umgh" but there were lots of good things there. We were all weighed at the store; I weighed eighteen pounds though I now weigh about seventy five or eighty pounds.

Then I was taken to the home of my master, Charles Hayes. He put me in a small shed and nailed up the entrance, for there was no door. Then he gave me a nice bran mash. The next morning I heard one of my sisters grunting outside of my pen. When my master came to feed me he heard her too. He got her and put her in the pen with me.

But my poor sister did not live with me long for she died about two weeks afterward and took a long journey in an empty coal car. The morning after she died my pen was enlarged to the size it now is. I am very proud of my pen for it is much larger than the other pens (that is what I heard my master say.)

Lately my master has been getting me some weeds which I like very much. Once he got me a sack of alfalfa, it was good too.

Yesterday two ladies were here I heard them tell my master to write a story about me so I am going to write this and give it ti him, and then he won't have to write one himself.

Signed, "LIBERTY BELL."

## CLUB WORK DEMONSTRATIONS IN COUNTY TEACHERS' INSTITUTES

New departure in County Institute work was that given recently before the teachers, of Eddy, Chaves, Roosevelt, Curry and De Baca counties.

Each of the above counties has a paid county club leader for the boys' and girls' club work. The school superintendent called upon these club leader to place some demonstrations, characteristic of club work, before their teachers, the purpose being to give teachers the correct view point of club work and to stress the importance of demonstration teaching.

Assisted by state club workers Mrs. Koger and Mr. Conway, the county leader planned the following demonstrations which were given by boys and girls who are actively engaged in projects in their respective counties. Note that these projects are food producing, food conserving and home building. They were demonstrations in canning, cooking, sewing and the caring for pigs.

One of the requisites of a "Standard Club" is the training of a demonstration team which must give one public demonstration on their particular club project during the season, the idea being not only to learn how to do the thing, but to learn it well enough to be able to show others how to do it. This is real demonstration teaching.

Eddy county club teams demonstrated in all four projects mentioned—pigs, canning, cooking and sewing. Their canning team is three boys, members of the garden and canning club. One of these boys, Wallace Vest, was the champion garden club member of Eddy county for 1917. He and the Bell brothers make a splendid team.

In the presence of more than 100 people, who were constantly plying questions to the demonstrators, these boys did their work skillfully, with dispatch and gave reasons for their procedure and explained clearly the cold pack method in canning pears and tomatoes. Each took his turn and explained a definite part of the whole process, and did it in a way that re-enforced the work of his team-mates. This is the value of team work. This is "learning to do by doing" which is the heart and soul of Club Work.

A Pig Club demonstration is particularly interesting as you have a real live pig. One member steps forward and gives a short history of the pig club work in his county and State, then proceeds to give some information on the feeding and care of pigs. He usually likes to contrast the value of his pure-bred Duroc or Poland-China with that of the common scrub. He usually ends up by declaring that sanitation, good feeding and freedom from lice is the prevention of practically all diseases and the assurance of all success in the raising of good pigs.

A second member of the team explains louse-killers in common use and their effectiveness. He has a cheap one present—some Creso Dip no. 1, a little soap and some water to make an emulsion. He measures out one part of Creso Dip to seventy-two parts of water, adds a little soap, stirs it up and hands it over to team mate no. 3.

Demonstrator no. 3 now explains different methods of applying disinfectants and insecticides. He tells us that he would use a dipping vat if he had a large herd. He says the patent hog oiler or a rubbing post with a gunny sack greased with crude oil is good, but for his pure-bred pig, which likes to be petted and rubbed, he simply applies the dip with a scrubbing brush or an old broom while the pig grunts his thanks for the bath.

At Portales, the pig club team is three sisters, Louise, Nettie and Johnnie Allison. Each told her part of the story and did her work perfectly. The pure-bred Poland-China seemed to enjoy the sport as much as did the demonstrators and the spectators.

At Ft. Sumner there were two teams in each of the two projects—sewing and canning. The sewing teams did excellent work of cutting and partly making a garment in thirty minutes. The two teams worked simultaneously while Mrs. Koger explained each step taken, thus showing the teachers the best mehods of training a team for work. Two to four demonstrations were given at each point. It was a great opportunity for the club members to show their knowledge of their projects and their skill at club demonstration work. The privilege was no less welcomed by the teachers, many of whom will become local club leaders in their home communities.

The county club leaders of these counties are all teachers. They have caught the vision and have the desire and the skill to show this vision to others. The county superintendents are now stronger believers in boys' and girls' club work as a means of strengthening both the school and the home. They see that useful occupations may educate, enlighten and uplift the boys and girls in their schools as well as the knowledge of science and mathematics and the influence of history and literature.

W. T. CONWAY

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# THE NEW MEXICO FARM COURIER

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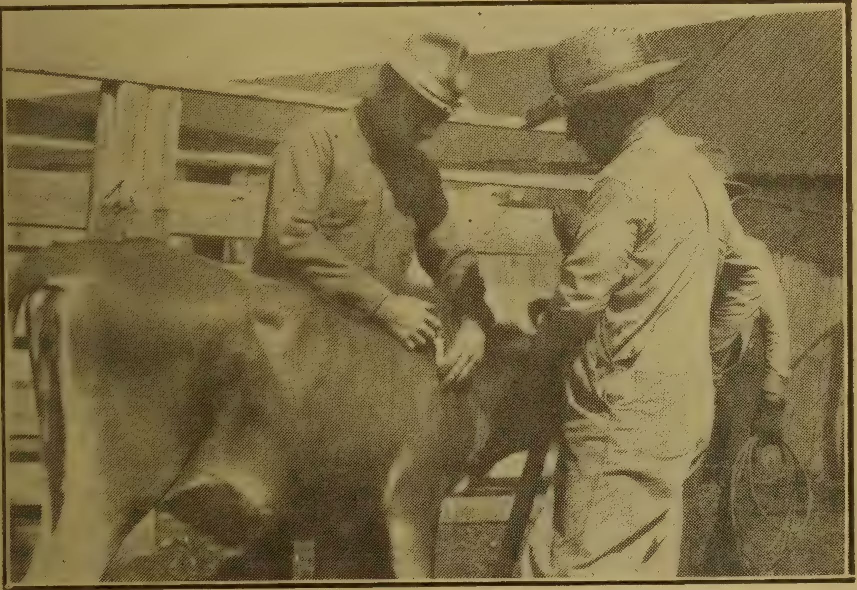

County Agent Demonstrating Method of Vaccinating for Blackleg

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AUSTIN D. CRILE, President of College.
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY, Director of Extension.

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# EDITORIALS

## DEMOCRACY VERSUS AUTOCRACY

(By A. C. Cooley)

Democracy stands for construction, and autocracy for destruction.

Such a statement can best be supported by calling attention to some of the things the United States, the guardian of democracy, has been doing in comparision with the things Germany, the guardian of autocracy, has been doing during the past half century.

The United States has had a constructive policy in mind. She has developed her resources and industries from a standpoint of service to all, and not a few nobility. Her armies and navies have been built and trained for protection only and not for conquest and for world domination. The building of her railroads, highways and canals, and the improvement of her harbars and rivers has been to develop and make our country a more desirable and fit place in which to live, and not for military purposes as has been true in the case of Germany.

While the United States has been constructing large irrigation and drainage systems, thus re-claiming millions of acres of waste land where now can be seen, instead of desert and swampy wastes, thousands of comfortable homes and productive fields, Germany has busied herself with the training of large armies, the construction of forts, battleships, submarines and howitzers with which to destroy human life and property. In other words the very things Democracy has been devoting her thought and energy to build and protect, Autrocracy has been devoting hers to destroy. She would have other Nations believe she has fortified hers for self-protection and self-preservation but her actions the past four years have demonstrated too clearly the opposite is true. In fact, before Germany undertakes anything she asked the question, "Is it, and how is it, going to contribute to our military strength?"

Even her supposed-to-be great educational system with its many recognized college and universities, has been used to teach the people the principles of torture, destruction and deception, rather than the true principles of Christian civilization. This fact has been demonstrated time and again by the abominable and damable actions of the German soldiers in France and Belgium.

The good Book says, "By their works ye shall know them."

### HOME BUTCHERING

One way to side-step high-priced meat and to avoid enforced abstinence from it because of closed butcher shops in small towns is for farmers to butcher at home meat that will more nearly supply their requirements. This is the patriotic thing to do. It spells economy for the Government. Every hog that is butchered on the farm where its meat is to be eaten means less freight to haul to market and less freight back to the country town. It means more freight car space left to handle war business, including the hogs and their resultant pork for the army.—Breeder's Gazette.

## Livestock

### VALUE OF A PUREBRED SIRE

A few poor cows may do some permanent injury to the dairy herd, but a poor sire will do untold damage. Frequently a breeder will hold a penny so close to the eye that it is impossible to see a dollar a little farther away. That is just what a breeder is doing who has a good herd of cows, grade or purebred, and thinks he is economizing by buying or using a poor or even a common sire.

Breeding is one of the important factors that determines dairy production. We may supply the best of feed and give best of care, yet the maximum production of milk is impossible, if feeding capacity, dairy temperament and conformation are lacking in the individual. These dairy qualities are the result of breeding for this definite purpose and are obtained through the use of purebred bulls possessing the desired qualities.

#### Influence of Sire on Herd

Many of the experiment stations have data showing improvement in production of their herds that has resulted from the influence of their good, purebred sires. This fact is also brought out very forcibly in cow testing associations all over the country. The data also show that the inferior bull tends toward the lowering of herd production.

The progressive farmer and breeder of live stock has, or should have, an ambition to improve the quality of his herd. If the sire is inferior to the dams, it is only natural that their offspring will be inferior and the value of the herd gradually be reduced, whereas if the dams are mated to sires of superior breeding, the off-spring will be superior in quality and the herd will gradually increase in value. Thus it is easily seen that it is decidedly more economical for the breeder to secure the services of a good, purebred bull than to use an inferior one. It is also much more economical for the breeder to increase the value of his herd by securing a good bull than to attempt to secure a whole herd of cows of superior breeding. In other words, the bull is half the herd when considering breeding qualities. He may increase or decrease the value of the herd according to breeding qualities. It is therefore necessary and important as well as economical that a sire of superior qualities be used.

### Value of a Purebred Bull

The results and value of the use of a purebred bull and herd of thirty cows may be illustrated by the following, taken from bulletin No. 69 of the Indiana University.

| | |
|---|---|
| Increased yearly production of daughter over dam, average lbs. of butter fat, | 50 lbs. |
| Value of daughter's increased yearly production | $15 |
| Increased cost of feed for each daughter (due to greater production as found in Porter Co. Cow Testing Ass'n.) | 6.00 |
| Each daughter's increased profit per year, | 9.00 |
| Each daughter's increased profit it in 6 years, | 54.00 |
| Increase in profit each year from ten heifers worth saving, | 540.00 |
| Value of sire's influence on 1st year calves, | 540.00 |
| Value of sire's influence from 3 years service, | 1620.00 |

These are very conservative figures, and they do not show the increased value or profit on succeeding generations.

From the same source the following figures are taken and show the relation of the cost and the influence of a good, purebred sire as compared with that of twenty grade cows on which he may be used.

| | Cost | Influence |
|---|---|---|
| Cost of purebred sire | $150.00 | 50% |
| Cost of 20 grade cows at $90, | 1800.00 | 50% |
| Total investment, | 1950 | 100% |

From this it is seen the cost of the bull is one-thirteenth, about 8%, of the total investment, yet his influence on the future herd is 92% of the investment.

### How to Select a Sire

The question often arises as to how to buy a bull. It is entirely possible to purchase an animal with paper which would show that the animal was purebred all right, but in buying a herd bull, the prospective purchaser should look carefully into the production of the ancestors on both sides of his pedigree, and if a mature animal and he has any tested daughters, compare these with those of their dams and see whether they are greater producers than their dams. This will give them a good insight as to what might reasonably well be expected. Many a good dairy bull has gone to the butcher's block and his real value not known until some of his daughters were tested and found to be far greater producers than their dams. The real test of the value of a sire is the performance of his daughters. A sire, however, is not likely to have daughters of superior quality unless he has ancestors of superior quality, for great production does not spring up spontaneously.

J. E. WATT.

## WINTER EGGS

It was formerly maintained that eggs could not be secured and that the control of egg production was beyond human skill. This view has partly been displaced by the idea that heredity, balanced rations, favorable location, or the type of house used, is what brings eggs. The first view is entirely wrong, the other only partly right, because egg production depends not upon any one thing but upon the favorable conjunction of all the factors entering into it.

Egg production,e specially winter production, depends on the following essentials: (1) Suitable Stock: (2) Comfortable quarters: (3) Kind treatment: (4) Regular attention: (5) Abundant water: (6) Liberal rations: (7) Wholesome feed: (8) Congenial exercise.

**(1) Suitable Stock**—The stock for winter egg production must be seasonably hatched, well-grown, well-matured, and vigorous.

**(2) Comfortable Quarters**—The poultry house should be clean, well ventilated and well lighted, yet with arrangements for light and ventilation of such construction that the houses may be made snug in severe weather.

**(3) Kind Treatment**—This means much more than is usually associated with the idea of kindness to animals. The poultry keeper should be easy in all his movements about the care of the poultry, and see that no one disturbs or annoys the birds.

**(4) Regular Attention**—This is most important in the management of laying hens. The times of attendance may be far apart, but the essential thing is that the hens' wants shall always be provided for in due time.

**(5) Abundant Water**—Keeping the poultry supplied with water in freezing weather is one of the most troublesome tasks of poultry keeping. Nevertheless a suitable supply should be accessible at all times.

**(6) Wholesome Feed**—In the general shortage and high price of grains that are usually fed to poultry, the tendency is to economize by using low-priced feed. This is a mistake that will soon tell in the number of eggs received, and should not be tolerated.

**(7) Liberal Rations**—To lay well hens must be fed well. Whether you use the "hand feeding" or "hopper" system, see that all hens have a plenty at all times.

**(8) Congenial Exercise**—The natural and favorite exercise of hens is scratching for feed. Feeding the grains in deep litter furnishes this exercise.

LEWIS C. TAYLOR.

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Don't expect a hen to dig for her own living and then make a living for you—feed her.

**How Pigs Are Lost Before Weaning Time.** Questionnaries were sent to a number of men in each county in Illinois having a County Adviser, and a summary of the answers was made by J. B. Rice: "The following list of percentages gives a summary of how pigs were lost before weaning time. Overlaid by sows, 29.13%; Farrowed weak, 22.34%; Farrowed dead, 15.88%; Killed, 10.09%; eaten by sows, 4.59%; aborted, 4.55%, scours, 3.43%, Thumps; 1.78%; necrobaccillosis, 1.56%; cholera, 1.01%; miscellaneous, 5.64%. From these figures, it is readily seen that the largest losses result from pigs being overlaid by sows. Much of this could be prevented with proper care and properly constructed farrowing pens. The total loss of pigs on these 192 farms in 1918 was 24.95% up to weaning time."—Extension Messenger.

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## COLORADO EXPERIMENT STATION RESULTS SHOW THAT VACCINATION FOR HEMORRHAGIC SEPTICEMIA PAYS

Sheep feeders will be interested in some work which has been done at the Colorado Experiment Station during the past two years on the investigation of sheep losses in the feed lots.

Dr. I. E. Newsom who has conducted these experiments says of them: "It has been definitely determined that hemorrhagic septicemia is responsible for the loss of a considerable number of our lambs which are on feed each winter.

"Vaccination seems to be the only method of control at the present time so that the question naturally arises, Shall lambs be vaccinated at the time of purchase and before going into the lots? In other words should vaccination be recommended as a routine procedure in this disease as in blackleg, anthrax, hog cholera and other infections.

"During last fall, lots were vaccinated, only where the disease was already in existence, but the results were so satisfactory that we do not hesitate to recommend the procedure as a preventative measure even before the animals take sick, as it would seem that the results will be even more satisfactory in this case. Vaccination should be done by a veterinarian.

"Accurate records were kept upon our lots which were vaccinated last fall and are tabulated as follows:

**Records of Vaccination**

| Date | Number vacinated | Number sick at time | Number died previously | Number died after |
|---|---|---|---|---|
| 11-10-17 | 504 | 40 | 50 | 4 |
| 11-13-17 | 771 | 20 | 20 | 2 |
| 11-30-17 | | | | |
| 12-8-17 | 4500 | 10 | 49 | 4 |
| 12-21-17 | 1100 | 200 | 40 | 22 |
| | 6875 | 270 | 159 | 32 |

From this table it will be seen that in three of the lots totaling 5,775, only 10 animals were lost after vaccination, although there had been a loss previously of 119. In the fourth lot the record is not so satisfactory, largely, we believe, because of the considerable number sick at the time of vaccination, and also probably because of the fact that a considerable time elapsed between the outbreak of the disease and the administration of remedial measures." —News Notes.

## FEEDING SWEET POTATO VINES

In answer to an inquiry concerning the value of sweet potato vines as a food for dairy cows, Prof. Foster says sweet potato vines are considered a very valuable roughage for cows in the Southern States where a large acreage of this crop is grown.

The best results are obtained by feeding the vines green, though they may be cured into hay the same as other forage crops with slight loss of the nutrients they contain; but they do not keep their color and the cows do not relish them quite as well. They have about the same feeding value as cowpea vines, though their composition differs in some respects, but they give about the same results when both are fed green.

The composition of the sweet potato vines on a dry basis is as follows: Protein 12.5%; fiber 18.2%; nitrogen free extract 55.7%; fat 4.9%. The composition of cowpeas on the same basis is 18.5% protein; 22.5% fiber; 48.1% nitrogen free extract; and 3.3% fat. The digestibility of the two does not differ materially. It will be seen that the sweet potato vines are not as high in protein as the pea vines, but they are considerably higher in nitrogen free extract and fat, and have less fiber, the least valuable of the feeding constituents, so the feeding values of the two may be considered as practically equal. Since a good crop of potatoes will yield from four to six tons of vines per acre, it will pay to preserve and make use of them.

The hen is a connoisseur on nest eggs; and who has a better right? Tests at Iowa indicate that she prefers plaster of paris nest eggs above all others. Next comes eggs of weed, next real eggs, and lastly china eggs, the most commonly used of all.

One hundred hens on every farm would mean sixty billion eggs a year for the United States.

# Fruits And Truck

### San José Scale

The San José Scale has received more notoriety, has been the cause of more legislation and does more injury to fruit interests of the country, than any other insect.

The scale attacks all parts of the fruit trees, including the trunk, branches, leaves and fruit, and can easily be detected on the young twigs and fruit, which become spotted with small red circles which form around the scales. Badly infested trunks and branches present a rough, grayish appearance. The mature San José is small, circular in outline, convex, with a nipple-like prominence in the center.

If a female scale be carefully turned over with a knife, there will be exposed a flat, yellowish mass of protoplasm. It has no legs, no wings, no head, but does have a long, thread-like sucking beak with which it bores into the bark of young trees and draws out the sap. Each female is supposed to produce 200 male and 200 female young; and on top of this, counting four generations a year, there will be produced, according to Dr. L O. Howard, 3,216,080,400 male and female scales from one original individual in one season. Thus it is easy to understand why an untreated infestation becomes very bad in a short time.

### Lime-Sulphur Solutions or Control

There are two important sprays made with lime and sulphur, and these are the favorite washes used for winter or dormant spraying. The spray not only kills the scale, but aids in the control of many fungus diseases. The first of the two sprays, is called the home-boiled, and is made according to the following formula:

| | |
|---|---|
| Stone lime, | 20 pounds |
| Sulphur | 15 pounds |
| Water to make, | 50 gallons |

**To prepare the spray:—**

Into the boiler or kettle place 5 or 6 gallons of water; into this add the sulphur which has been passed through a sieve; then the lime, a small quantity at a time. Fire should now be made under the boiler. After all the lime has been added and is through slaking, add water to keep a good boiling consistency and boil vigorously for 40 to 60 minutes, (until the mixture is a brick red). The solution is now ready to be thinned and strained carefully into spray tank or barrel; sufficient water being added to make 50 gallons. This wash should be applied promptly after preparation, since the contents harden on cooling.

The second of the two sprays is called the Factory-boiled, and can be purchased from factories as such. It is in concentrated form. This should be diluted with 8 to 10 parts of water to make the winter spray. If good lime can not be had and proper care taken in the making and straining of the solution, preference should be given to the factory-boiled preparation.

There is a third spray made from lime and sulphur, called self-boiled, that is used as a summer fungicide, and the first spraying may be made just after the bloom has fallen. Lead arsenate may be used along with this spray, at the rate of three pounds to 50 gallons of water, to kill codling moth.

The formula giving the best results is:—

| | |
|---|---|
| 8 pounds, | sulphur (flowers) |
| 8 pounds | burnt lime. |
| 50 gals. | water. |

**To prepare spray:—**

In the preparation of this mixture multiply the formula by 4.

To 8 or 10 gallons of water in barrel add 32 lbs. of fresh lime. When the slaking begins add 32 lbs. of fine sulphur which has been run through a sieve. As the lime begins to slake, water may be added to keep it from drying. The mixture should be stirred constantly, until the slaking is over, when more water is added, to stop the cooking. Strain and dilute to make 200 gallons of spray.

**Precautions!**

1. Never use air-slaked lime for quick lime.

2. Spray carefully, and see that all parts of tree are covered.

3. Do not spray when trees are wet, or if it rains soon after spraying, one must spray again.

4. Never put lime-sulphur wash in copper receptacles, for there is a chemical action that corrodes the copper.

5. Agitate solutions well during process of spraying.

J. G. GRIFFITH.

### STORING TURNIPS, BEETS, ETC.

There was an article in last month's Courier on the storing of cabbage, but on the whole, cabbage, turnips and beets, do not do equally well under the same conditions.

The beets and turnips may be stored in a trench, or in a cellar, but the most popular way is to pile them in small mounds on top of the ground and then cover them with straw to a thickness of three or four inches, and finally cover ing this with earth The earth should be thick enough to prevent freezing and will not injure the crop if some of it falls between the turnips or beets.

Before being placed in the mounds, the tops should be removed and all specimins showing any indications of decay should be thrown out. If no straw or similar material can be had conveniently, the earth may be thrown directly on the pile, even tho a great deal of it falls into the pile of roots.

Both beets and turnips will stand a little more water than cabbage and should be kept moist at all times. This is more difficult to do when the roots are stored in a cellar, for as a rule most cellars are warmer than they should be for storing root crops.

The winter turnips keep a little better in the southern part of the state than the summer turnips, but both kinds may be kept fairly well. While it is best that the turnips should not freeze, on the other hand they should not be stored while the weather is warm. Where it can be done, the turnips or beets should be placed where they will be in the shade as this causes a more uniform temperature. Both turnips and beets should be kept moist, cool and at a uniform temperature. It is almost impossible to keep any thing where the temperature fluctuates considerably.

J. W. RIGNEY

## Farm Crops

### FALL AND WINTER PLOWING UNDER WAR CONDITIONS

Much has been written and many theories have been developed on the best time to plow, but experimental evidence brings out the fact that there is no rule that can be followed under all conditions. When we follow a series of experiments thru a long period of time, we usually find that the difference in yield between fall and spring plowed spring crops is not as great as one might expect.

This presupposes, however, that the ground is plowed when it is in suitable condition so that a good job can be done. It sometimes happens that when left until spring, the rush of work delays plowing until the soil becomes too dry and a poor seed bed is the result. Where irrigation water is available, this may, of course, be overcome, but at the expense of applying the water.

### Fall Plowing

Fall plowing can be done somewhat deeper than spring plowing, for the soil has sufficient time to settle and make a firm seed bed. This does not always increase crop yields, however, and while it is a good practice to plow fairly deep so that a good seed bed can be prepared, it rarely pays to plow deeper than 7 or 8 inches.

When plowed in the fall or winter, the land should be left rough, for this reduces the danger of blowing of light soils or the puddling of heavy soils. If left in this condition and the ground is well frozen during the winter months, it will usually come thru the winter in a mellow condition. This makes it easy to prepare a desirable seed bed.

### Local And Seasonal Conditions Determine Best Time

Local and seasonal conditions may be an important factor in determining the best time to plow. On some light soils, if a heavy stubble has been left on the ground, it may be desirable to postpone the plowing until spring so as to reduce the danger of blowing to a minimum. If these same soils have been left comparatively bare and smooth in the fall, it may be desirable to plow in the fall so as to leave the soil rough for the same reason.

In some of the dry farming sections, if there should be sufficient rain in the late summer or early fall to start an abundance of weed growth, it would probably be desirable to plow immediately to check this growth and conserve the moisture. In case the fall has been dry with little weed growth, it may add to the moisture content of the soil, especially in northern sections of the state, to leave the ground in the stubble during the winter so as to hold the snow. This fact was clearly brought out in a series of experiments at Akron, Colorado, where following the very wet August and September of 1910, the fall plowed plots of wheat, oats and corn out yielded the spring plowed plots 3.8 bu., and 7.1 bu., respectively, yet for an average of 6 years, the spring plowed plots gave slightly the larger yields.

### Management of Entire Farm Must Be Considered

In many places, however, there seems to be but little preference so far as crop yields are concerned, and under such conditions the scheme that best fits in with the management of the farm as a whole is the deciding factor. This is especially important now as the result of the war.

Most farmers are short of labor. It is their patriotic duty to make their labor go as far as possible. One of the greatest sources of labor waste on an average farm is due to its unequal distribution. Many farmers work from 12 to 14 hours a day during the rush season of the spring and summer but are practically idle during the late fall and winter. This is true, even to a greater extent, with horse labor.

### All Work Possible Should Be Done This Fall

Everything possible should be done this fall and winter to lighten up the work for next spring. It may take somewhat more total labor to plow land in the fall and then prepare it for a spring crop than it would to postpone plowing until spring, but if the plowing, which usually is the largest actor in seed bed preparation, can be done when men and horses would otherwise be idle, it certainly cannot be considered the more expensive practice.

American Agriculture is based on crops grown per man rather than crops grown per acre. Especially during these war times, when a large number of farmers and farm laborers have been called to arms, it is necessary for each farmer to so plan his work to increase production per man to a maximum. Unless local conditions make the practice undesirable, if he has not already done so, he should begin now to get ready for next year's crop by plowing his land.

L. H. HAUTER

## AVAILABLE PUBLICATIONS

The following publications of the Extension Service, New Mexico College of Agriculture and Mechanc Arts, are available for general distribution. Copies will gladly be sent upon request. Write the Extension Service, State College, New Mexico.

### Extension Circulars

1.—Home Economics, Extension.

2.—Facts about Silos for New Mexico. (Spanish & English).

3.—First Lessons in Dairying in New Mexico.

4.—Study Program Women's Clubs; Foods.

6.—Study Program for Women's Clubs; Poultry.

7.—Study Program Outlines for Homemaker's Associations.

14.—Study & Program Outlines for Homemaker's Clubs.

15.—Girls' Cooking Lessons for 1917.

16—Girls' Sewing Club Lessons for 1917

17—Milo Maize and Kafir Corn Club Lessons

19—Potato Club Lessons

20.—Boys' and Girls' Corn Club Lessons or 1917.

22.—Boys' and Girls' Poultry Club Lessons, 1917

23—Pig Club Project, 1917.

25.—Fruits and Vegetables.

26—Buttonholes.

27—The School Lunch.

28.—A Manual or the Detection and Treatment of the Smuts.

29.—Milo Maize & Kafir Corn Club Lessons and Instructions for 1918.

29.—Control of Insect Pests and Diseases of the Potato.

30—Pit Silos for New Mexico.

30.—Boys' and Girls' Poultry Club Lessons and Instructions, 1918.

30-B.—Boys' Corn Club Lessons and Instructions, 1918.

31.—Pig Club Project Lessons and Instructions for 1918.

32—Garden and Canning Club Lessons and Instructions for 1918.

33—Potato Club Lessons and Instructions for 1918.

34.—Bean Club Lessons and Instructions, 1918.

35.—Girls' Sewing Club Lessons and Instructions, 1918.

37.—Salads.

38—Pinto Bean.

39—Meat Saving

40—Soups

41.—Sugar Saving.

42.—The Potato.

43.—A Whole Dinner in One Dish.

44—Grain Sorghums. (In Press).

In addition to these, the Agricultural Experiment Station has published a large number of bulletins. A list of those available can be obtained by addressing the Agricultural Experiment Station, State College, New Mexico. Any citizen of New Mexico who desires to receive all of the Experiment Station bulletins as published, may have his name placed on their mailing list, by sending his address to the Director of the Station. There is no charge for these bulletins.

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Farmers are sometimes the last to heat up, but they stay hot, and in a long fight they are always found sturdily carrying the battle across No Man's Land to the foe, in the last grim struggle.—Herbert Quick.

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Suppose the weather sometimes does spoil your plans. The boys over there don't always have ideal conditions for their job, either.

# Farm Bureau News Notes

**"The county agent as the Farm Bureau manager is the captain of America's organized soldiers of the soil".**

## DEMONSTRATION AGENTS ON THE JOB

A recent paper issued from the office of the Secretary of Agriculture by G. I. Christie and Clarence DuBose on "Supplying the Farm Labor Need" has the following to say of the very effective County Agent system now well organized and working under the United States Department of Agriculture and the Agricultural colleges of the country:

"In the very nature of things the Government seems an abstract, impersonal thing to most people. But that is not the way the farmers feel toward the particular branch of government with which they are concerned—the United States Department of Agriculture. Indeed, no single circumstance, probably has contributed so much to the success of the Department of Agriculture's war program of increased food production as the fact that farmers in almost every county in the Nation call that department by its first name. That is to say, to most farmers the agricultural end of the Government is typified in the person of 'Bill' or 'Tom' or 'Henry', or whatever his name may be—of the County Agricultural Agent—a man they know—a man they see frequently—a man who is one of them—a man who practices what he preaches, and not only tells how to produce bigger and better crops but actually does so himself on farms which he uses for demonstrations in various parts of the county—a man who reaches the farmers in their fields and homes and presents the suggestions, the requests, the war programs of the department.

" 'Bill' and 'Tom' and 'Henry' were on the job before the war, of course, for this County Demonstration Agent System is one of the fundamental features of the Department of Agriculture's permanent work But there are many more now than before the war—some 2,500 at present. In steadily increasing numbers since the war began they have been out in 'tin Lizzies', 'traipsing' up and down the counties of these Unted States—Bill and Tom and Henry, telling the farmers, first of all, **why** more food must be produced, and then, if necessary, showing how to do it.

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## MISSOURI FARM BUREAUS AMONG FIRST TO FEDERATE

The executive committee of the Missouri Farm Bureau Association held its first meeting September 30 and October 1, at the Missouri College of Agriculture. Arrangements were made for the employment of a secretary who will devote his entire time to the farm bureau interests.

The Missouri Farm Bureau Association first came into existence four years ago under the name of Missouri Association of Farm Bureau Boards. At the recent meeting at Warrensburg, September 12 and 13, the organization adopted a new constitution and its present name. The paid-up membership in the state at present is 30,000. This number is being rapidly increased.

The Council of National Defense, representing the Federal Government in its war activities, has recognized the farm bureaus as being in charge of the agricultural war program of the nation. The recently reorganized Missouri Farm Bureau Association, therefore, is expected to play an important part in the development of Missouri agricultural interests at present for purposes of meeting war needs, and later for the purpose of maintaining a permanent and efficient system of agriculture in the state.

Missouri is one of the first states in the Union to federate its county farm bureaus into a state association. Other states are perfecting similar types of organizations, making it possible within the next few years to have a national organization which will represent agriculture in the councils of the nation.

### Russian Thistle as a Feed

Ruusian thistle, which has been considered one of the worst weeds of this state, is being utilized by the farmers of Stanley, New Mexico, to carry their stock thru the winter, according to County Agent Ramirez of Santa Fe county. Stocks have been built which range from 5 to 50 tons. During the past two years of drouth this was the only means by which the farmers and live stock men were able to save their stock from starvation The next thing that the farmers of Santa Fe county have determined to do is to build silos and fill them with the Russian thistle which grows so abundantly.

### San Juan County Farm Bureau Work Pays Well

For every dollar spent on farm bureau and county agent work the past year, San Juan county has received a return of $50 in money saved and benefits derived from other service. This is shown in a report prepared at a recent meeting of the executive committee of the Farm Bureau of which H. S. Moles is county agent

Twenty-one items are enumerated, representing the various activities of this organzaton The total cost of Extension work in San Juan county for one year, including estimates of the cost involved by the visits of specialists, amounted to $7025. The amount of money saved by the Farm Bureau amounted to $62,500. In addition to this, assistance was rendered in the shipping of beans, importation of sheep and other stock, building of silos, priarie dog eradication, drying and canning campaign, personal visits, etc. This report shows at least ten to one for every dollar expended in Extension work in the county, and a return of fifty to one for each dollar spent by the county itself.

### Objects of Farm Bureau

County Agent A C. Heyman of Luna county gives the following as the immediate object of the Luna County Farm Bureau.

1. To find a market for present production
2. To encourage larger production in proportion to larger market demands.
3. To assist the present farmer in combating injurious diseases, insects and pests.
4. To insist that the financial success of the present farmer is the only legitimate advertisement to the prospective investor.

### Let's Swap

There are many reasons why every county should have an active Farm Bureau. The following is one of them:

You have a dollar
I have a dollar
We swap.
Now you have my dollar.
And I have yours
We are no better off.

You have an idea
I have an idea.
We swap.
Now you have two ideas
And I have two ideas.
That's the difference.
—From the "Modern Retailer."

# Home Demonstration Agent Notes

(Edited by Lura Dewey Ross, State Leader Home Demonstration Agents)

## HOME CARE OF WOOL GARMENTS

At the present time our government has asked us to conserve clothing as well as food, to enable every soldier to have plenty of warm woolen garments. Many of us have on hand clothing, which if properly cleaned and cared for may be worn by ourselves or remodeled and used for some of the smaller members of the family. We should all feel it our patriotic duty to go thru trunks and closets and bring forth all discarded clothing and make use of it in the present crisis, and to take the best possible care of our clothing to prevent the purchasing of new.

### Clean and Mend

The appearance and wearing qualities of all garments will be greatly increased if care is given to the cleaning of them. Wool garments should be brushed daily, this restores the nap, removes the dust and "shine" especially if a fine wire brush, or a piece of sand paper is used as an aid in removing the "shine." The motion of brushing should be circular.

All spots and stains should be removed as soon as possible. First determine the character of the stains and remove at once. This not only gives an opportunity to save money but also allows one to appear well dressed.

Skillful mending of garments is another means of prolonging their period of usefulness Darning is the most successful method,—use care in choosing a color and fiber for darning that will correspond to the garment Press the place when it has been mended and it will be much less conspicuous.

### Garments Should be Pressed

Few women realize the value of pressing. Womens suits need pressing just as much as mens suits. Possibly one reason why men often appear better dressed than women is because men take it for granted that their suits require pressing at regular intervals. When pressing garments use a moderate iron; use a pressing cloth wrung out dry; place the pressing cloth on the right side of the garment and press until the cloth is dry. The wool material will not be entirely dry, turn garment and press on the wrong side. Never press on the right side as the nap or fuzzy surface is pressed down so tightly that the garment appears shiny.

### Two Metihods of Cleaning

In cleaning wool garments two methods may be used They may be laundered or dry cleaned. In washing wool garments, avoid the use of hot water and drying near hot surfaces, if this is done the wool will become felted. Wools shrink, so the same temperature of water should be used for washing and rinsing. Do not hang a garment, which has been washed and rinsed in warm water, outside on a very cold day. Use only good quality of soap for washing as strong soaps and washing powders tend to weaken and destroy the wool fiber. Do not wash on a board but wash carefully by hand. They should not be ironed until almost dry and with a moderately hot iron, this lessens the possibilities of shrinkage. Dry cleaning refers to all cleaning not done by water. Gasoline, naptha, benzine, ether and chloroform are the liquids used for this method. They remove grease spots and stain, which water has no effect upon. These should be used out of doors in a cool place, never in a warm room or near a fire as they ae very combustible. Use plenty of cleaning material, use a clean cloth under the garment to absorb the stain and extra cleaning material. Use a long sweeping motion. Press after cleaning.

### Moth Protection

As a protection from moths, keep the closet or wardrobe clean, if possible, have a window in the closet. Brush under lapels, plaids and the top of hems. Turn cuffs down and brush; turn pockets wrong side out and brush. Do not store garments unless they are clean. They may be packed in boxes or trunks, sewed up in brown paper or newspapers. Brushing and careful wrapping are the most successful moth preentatives. Strong smelling substances as camphor balls, etc., are often used with the belief that the odor is the most effective remedy. If the garment has not been well brushed and wrapped the odor of camphor; cedar, tobacco, etc., will not keep the moth out.

### Dyeing

Do not forget that old wools may be dyed and appear like new. If the garment is all wool use a wool dye—if it is half cotton use a cotton dye, as wool dyes better with cotton dye than cotton with wool dye. It is better to try a darker shade than the original color. Be sure that garments are clean before attempting to dye them. To avoid uneveness in dyeing, have the wool garment thoroughly wet before placing in the dye mixture and also use a large enough kettle or pan so that the material can be thoroughly and frequently stirred.

LURA DEWEY ROSS

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No. 8

Mrs. Carrie P. Phelps left Wednesday morning to begin her duties as Home Economics Demonstrator in Howell County, Missouri. Mrs. Phelps has been in this work in Grant and Luna Counties of this State for the past year.

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Keep the hens confined to your own land.

### PASTEL DE FRIJOL

1 taza de pulpa de frijol
½ taza de miel
1 cucharadita de sal
1 cucharadita de canela
1 cucharada de almidón de maíz
¾ taza de leche
2 yemas de huevo
¼ cucharadita de espaura
¼ cucharadita de clavo
½ cucharadita de jengibre
¼ cucharadita de nuez moscada

Se mezclan todos los ingredientes. Se usan las claras de huevos para merengue.

### GALLETAS DE AVENA

2½ tazas de avena
2 huevos
¾ taza de miel virgen
1½ cucharadita de espaura
½ cucharadita de sal
1 cucharadita de vanilla
3 cucharadas de aceite.

Se mezclan todos los ingredientes. Se deja caer a cucharaditas sobre una plancha untada y se pone al horno a fuego lento.

### TORTA DE ESPECIA

1 taza de azúcar de moreno
1 taza y ¼ de agua
1 taza de pasas
1-3 taza de aceite
⅞ taza de harina de frijol soy
2 onzas de cidra
1 cucharadita de canela
1 cucharadita de nuez moscada
1-3 cucharadita de clavos
½ cucharadita de sal
4 cucharaditas de espaura.

Se agregan todos los ingredientes y se pone en tortera. Se pone al horno durante 45 minutos.

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Cottage cheese tastes exceedingly good to a hungry man and is a desirable dish at any time when properly prepared. Cottage cheese has its place in the farm home. Talk to your County Home Demonstration Agent about the matter.

# Boys' and Girls' Club Work

(Edited by Charles Orchard Smith, State Leader)

## THE BLIND PIG

If with a blind, scrub pig Sara Gonzalez of Hondo, N. M., could say, "The cost was seven dollars of corn and he was worth $21.25 in meat," what could she have done with better stock? Do not miss reading her story of the pig she raised. It will give you something to think about whether you are old or young. Let us all boost for better pigs and more club members like Sara.

## "MY LITTLE CLUB PIG."

(By Sara Gonzalez, Hondo, Lincoln Co., N. M.)

My little pigs were born on January 8th, 1918.

They were very fat when they were born. The mother pig made a deep, warm nest under the snow and they were very cosy and warm.

I did not know about the little pigs until they grew strong, and their mother brought them out to walk around. There were three brothers and three sisters, two looking alike.

The next day I found their nest and took the mother some corn to eat, but she was not there. So I looked for her and found her in the alfalfa field; but one little pig was gone. I had noticed two spotted ones, and now I could see just one spotted one and four others. I wondered where he could be and started to look for him. I looked in all of our alfalfa fields and orchards and down to the river, but I could not find him. I looked in all of the irrigating ditches, and while there saw a wagon coming up the road. When I asked the driver about my little lost pig, he said, "I saw a little pig running up and down the hill back there. Is it yours?" When I asked him if it was spotted, he said, "Yes, black and white spotted." So I went to the hill and there he was running up and down the hill. I took him in my arms and carried him to the house.

Mama said, "Where have you been so long, and what are you doing with that little pig?" When I told her all about it she said, "May be he is blind," but I said, "No, he's not. His eyes are wide open. "But how did he get lost from his mother if he can see," she said, "Perhaps his mother crossed the river and he was left on this side and got lost." I took him outside and turned his head to one side so the light would shine in his eyes and they were white. Mama said, "Sure enough, he is blind in both eyes." I thought to cure him and put salty water in his eyes, and took him to the mother in the nest.

In the morning I went again to the nest, but he was gone. I looked and looked for him until I found him away over at Luis Sanchez'. The poor little fellow was badly hurt and bleeding, for the Sanchez children thought he could see to get out and had set the dogs on him. Then I told my mother I did not have time to hunt the little pig every day. She said, "Put him in a little pen and take good care of him." So for a month I cared for him, giving him boiled corn and milk every time his mother came up.

Then he grew so heavy I could not carry him about so much and I wondered what I could do. For a week I left him in the nest every night and in the morning brought him to his pen. I once thought to tie him with a rope near the nest, but by that time four more hogs had brought many more pigs to the nest and I was afraid they would all bunch together and smother him, especially if th y would lie on the rope. So I let him loose in the nest for he was too heavy for me to carry.

One morning when I went for him he was gone. I looked nearly all over Hondo, but could not find him. The next morning I looked and looked for him again for I did not want to lose him. Then I said to my brother, "Won't you please look for my little, blind pig?" But he could not find the lost one. The evening of the third day I found him in the orchard. He was so hungry and thirsty that father said I must not let him nurse his mother, but give him a little feed at a time. He would eat nothing until I took him to his mother. In the morning he was gone again. I was tired and when I told my father he said, "You should not have turned him loose. I knew he would get lost again."

Mama told me to get some water. As I walked down the road to the river, I was looking everywhere for my little pig for I could see his black and white far off. Then all at once I saw him by the fence working with all his might to make a nest for the nights were cold. I threw down my bucket, ran to him. got him and put him in his good little pen.

When I left him for a long time he forgot his mother. I gave him corn, alfalfa, slop, and plenty of water to drink. I kept him nice and clean and kept all of the lice off of him. He grew fat and pretty and I was proud of him. Everyone in Hondo knew my little pig for I asked for him so much.

He knew me by the way I talked to him when I went to feed him. I had him eight months, giving him corn, sometimes weeds, and sometimes apples. No one ever fed my pig but myself and I bathed him often, too, to keep him healthy. I would clean away the rocks he dug up and I played many games with him. Sometimes I would take him morning-glories when he would be so anxious to get greens: he would chase me for them.

But the little pig was not satisfied with his pen. He would run from side to side and cry and try to get out, so he could not get fat. I tried my best to get him fat, but he began to get poorer, and for two months he would not get fat. Then papa said, "We are going to kill your little pig one of these days." I did not think the time was to come so soon. I wanted his picture, but it was too late.

One Sunday papa said, "Your little pig is eating too much corn and not getting fat." At first he weighed 25 lbs, then in another month 35 lbs. and in two months 85 lbs. One Saturday in July papa said, "Sara, do not feed any more corn nor weeds, nor apples to your pig. Just water for we are going to kill him tomorrow." In the evening I went to take some apples to some pigs by my little pig's pen and he was crying he was so hungry. I ran to get him some corn without remembering. Then, all at once I remembered and went back to my room and cried for my little hungry pig.

The next day I could not keep from crying and I went to give him an apple for the last time I hugged and kissed him and cried by his side. Then father said, "Make a fire and have some water." I did. They brought him near and I cried as though for people and they thought it best to take him down by the stream. So he died; when I heard him cry I put my hands over my ears.

My sister said, "Come out now, Sara, your little pig is different and all clean."

I now have some of his hair tied with a little ribbon and I shall remember him all of my life. The Sundays are no longer pleasant for I feel sad when I see his pen so empty and the last water I took there is still in the trough. When I see so many weeds I think of him.

The cost was seven dollars of corn and he was worth $21.25 in meat.

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# THE NEW MEXICO FARM COURIER

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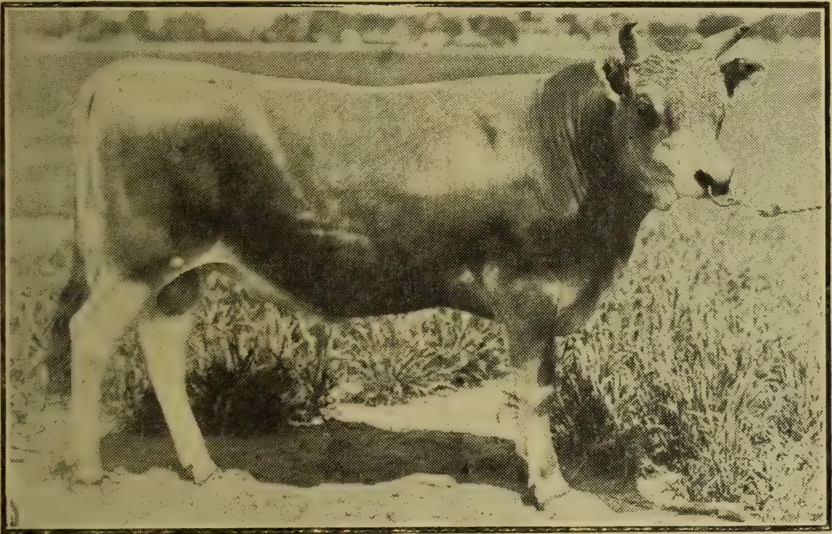

Rochette's Lad No. 165211, the Jersey Bull Recently Purchased by the Agriculture College.

Experiment Station
Urbana, Illinois

Published Monthly by the Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M., and United States Department of Agriculture, Cooperating.

# THE NEW MEXICO FARM COURIER

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# EDITORIALS

## SUPPLEMENTARY FEED

(By President Crile.)

The Dry-Farm Station at Tucumcari, in co-operation with our College, has given an illustration of the value of feeding, in such times as last winter, that is about as clear-cut an illustration as one could wish for.

In January we bought five coming three-year-old heifers, bred, out of a ranch herd. They were selected as the average of the herd. They were fed 100 pounds of silage and 20 pounds of cowpea hay per day for ninety days. Then we went back to the same ranch and bought five three-year-old heifers by the same sire. In January, at the time the first five were picked, they were the equal of the ones we got; and since that time on the ranch they had been fed bran, ground maize, cake, and straw as it could be procured from time to time.

On May 3 we got five of these heifers that had not been regularly fed, brought them in and put them in a corral alongside the fed heifers. Good, experienced cowmen said they would rather pay $20 a head more for the same stuff which had been fed than for that which had not been fed. The difference in weight between the two herds of five each was 790 pounds in favor of the fed herd.

The experiment will now be run for several years with these two lots—on their calves and on the cows; five of them being given supplementary feeds and the other five on the open range. We are satisfied that the experiment will show that it pays to feed.

This would be a good time, in this splendid, moist year, to grow some feeds and store them away for that dry, hot, and grassless spring that will cut down the profits for several years for the ranchman.

## HOGS

(By President Crile.)

The selling price of hogs has been a constant surprise ever since the War. I remember when they went to fifteen cents a pound, and every one said the limit was reached. Now they are twenty cents, and the prediction is that the limit may not yet be reached. We are told that the overseas market for pork products is rapidly increasing, and that it is expected that the demand will be as great, if not greater, this summer, fall, and winter, than it was a year ago. So it would seem safe to grow hogs, and fatten them this spring, summer, or fall.

A little planning concerning cheap feeds for growing the hogs, and concentrates for fattening, would now be in order. That hogs will be selling for twenty cents a pound may not mean that you will get twenty cents a pound for your hogs. Below is a classification that is sent out by the packers, regarding the way hogs run in their values:

"1. PRIME HEAVY HOGS; usually barrows, prime in condition, form and quality. Weight 300 to 400 pounds.

2. BUTCHER HOGS; fairly well finished young stock but lacking formation of prime hogs. Weight 200 to 300 pounds.

3. PACKING HOGS; heavy hogs, not having quality to grade as prime hogs, also lighter weights not good enough for butchers. Weight 200 to 350 pounds.

4. LIGHT HOGS; usually young, light-weight barrows or clear sows. Weight 130 to 200 pounds.

"5. MARKET PIGS; weight 50 to 130 pounds.

6. ROUGH HOGS; may be any weight, but lacking in condition, form, quality and finish.

7. STAGS.

8. BOARS.

9. ROASTING PIGS; weight 15 to 30 pounds.

You ought to look over your stock of pigs and decide about into which class they would come, and grow and feed and finish them smoothly. Always remember that a well bred pig is more certain of entering the smooth class than a scrub. Hogs should produce a neat sum of money for our State this year.

Remember the two kinds of criticism—one of which is destructive but never offers a remedy, and the other which suggests a remedy and is constructive. The first is cheap and easy. The second requires thought, consideration and brains.

## HAVE YOU RETURNED THAT CARD?

**Some misunderstood the purpose of the classification card sent to all readers of the Farm Courier a few weeks ago. Already being on the mailing list they felt that it was not necessary for them to return the card. This is a mistake. All those who received a card should check and return it at once. This is the only way we have of knowing that the literature that we are sending to your present address is still reaching you or that you still desire to receive the Farm Courier and other bulletins from the Agricultural College. Those who do not return the card will be taken off our mailing list.**

**If anyone is not on our mailing list or failed to receive a card we shall be glad to send him the Farm Courier every month and such other bulletins that we publish from time to time if he will write the Extension Service, State College, New Mexico. Don't neglect this, but send the card or write us NOW while it is on your mind.**

When all is said and done the man who owns the land from which he makes his living is the backbone of the country. Furthermore, with his family, he makes up one-third of the population. Even from the point of view of organization he is not to be despised, for our organized farmers are more in number than the whole membership of the American Federation of Labor.—Gifford Pinchot.

There is no other agricultural activity that comes in as close touch with the farmers of the state as the farm bureau association. It is purely an organization of farmers for the benefit of farmers and advancement of the state agricultural interests.

# LIVESTOCK

## MINERAL MATTER REQUIREMENTS OF STOCK

The ash or mineral matter of feeding stuff is of great importance since it is found in all the vital parts of the animal body, particularly in the muscles, blood, skeleton, digestive fluids and milk. Young animals must be well supplied with it in order to make proper growth and development. Should they fail to receive a sufficient supply of it they will in time show a marked weakness of body and limbs and may finally die. A large amount of calcium is deposited in the bones of animals chiefly as phosphates and to some extent also as carbonates. In feeding all classes of animals the calcium and phosphorus content of the feeds used must be considered. Properly balanced rations are not ordinarily deficient in mineral matter excepting salt, which must be supplied; sometimes pigs need access to a mineral mixture. Feeds low in mineral matter are commonly fed in connection with others which make up the deficiency, but pigs because of a usually restricted diet often suffer from insufficient calcium and phosphate more than other young stock, especially when fed on corn alone. It should be fed in combination with feeds like tankage, milk and alfalfa. Calves, colts and lambs receive enough of mineral matter usually in the pasture grass or the hay and grain that they are fed. When a ration must be used that is deficient in calcium or phosphorus these minerals may be supplied in the form of calcium carbonate in wood ashes or ground lime stone, or phosphorus and calcium in the form of bone meal or ground rock phosphate. The latter is considered by far the cheapest form of phosphate available for this purpose.

The hunger of animals for common salt is well known. Besides serving to excite the appetite and increase the palatability of foods it stimulates their digestion, hastens circulation and thus prevents digestive disturbances. Animals allowed free access to salt will consume only enough to meet the need of the body. Salt requirements may differ greatly in different localities, depending on the quantity in the soil, or in the water with which the stock is supplied. Cows in milk and sheep show the greatest need of salt, and are more readily affected by its absence than other classes of livestock, such as fattening cattle, dry cows and horses. In this southwestern country with the abundance of alfalfa and other leguminous crops it is seldom necessary to resort to any other source to secure the mineral matter necessary for the proper growth or health of any kind of stock. The different kinds of straw, the various root crops and the cereals with their by-products such as bran and middlings are low in calcium, while the legumes such as clover and alfalfa and the leguminous seeds such as peas and beans are very high. Straw, beet pulp and molasses are low in phosphorus, while the cereals, wheat bran, cotton seed meal and tankage, carry it in abundance. A proper combination of such concentrates and roughages as mentioned above will furnish abundant bone and muscle building material. When rations are properly balanced by the legume feeds, corn, barley, kafir and milo may be fed them without the necessity of adding mineral matter. However, if it seems desirable to feed substances specially rich in phosphorus and lime, they may be readily obtained in a very concentrated form in tankage, ground bone and bround rock phosphate from the fertilizer companies and packing houses.

LUTHER FOSTER.

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## COLLEGE PURCHASES JERSEY BULL

Rochette's Clover Lad No. 165211, whose picture appears on the cover page of the Courier, is the new Jersey sire recently purchased by the College of Agriculture. He is a vigorous, outstanding individual who is expected to give marked results in improving both the type and production of the College Jerseys. He was bred by Mr. Meldrum Gray, Roswell, New Mexico, and was one year old January 18, 1919. His sire was Cloverleaf's Gamboge Fox, a son of Gamboge Knight's Fox, Mr. Gray's herd bull. His dam was Rochette's Lisette, a sister of Rochette's Princess, who produced 17,891.1 pounds of milk and 933.33 pounds of butter fat in 365 days.

## BODY LICE AND THEIR PREVENTION

Fowls are liable to become infected with parasites which may infest the fowls either internally or externally. The parasites which attack chickens externally are not likely to cause the death of the fowl except under extreme conditions.

Infestation by any one sort of the external parasites is naturally quite disagreeable to the chickens, making them uncomfortable and restless. It is a well understood fact that when hens are not contented and happy their production is not satisfactory. Uncomfortable and restless hens certainly cannot be either contented or happy, and therefore their production cannot be the best of which they are capable.

With external parasites preventive measures are better than the necessity of having to eradicate the parasites after they have gotten a foothold. In all classes of external parasites, thoro sanitation and cleanliness are the best preventive measures.

Probably body lice are the most common kind of external parasite found on poultry. Lice are commonly found on neglected fowls and unless combated in some way increase with great rapidity. There are several kinds of lice found upon chickens but the treatment for all kinds is the same. The principal damage done by lice is a severe irritation of the skin. If a bird is infected, the lice may be easily and readily found by parting the feathers around the vent where they will be seen crawling over the skin. Lice will not be found in the house as they make their home on the fowl continually.

To rid the fowls of lice use any standard commercial lice powder. Dust it in the fluff and under the wings, rubbing it thru the feathers till it comes in contact with the skin. The dusting should be repeated in about a week. A good, clean dust bath should then be provided for the hens. This may be easily done by spading up a small piece of clean ground.

A home made lice powder may be made as follows: Take three parts of gasoline or distillate and one part crude carbolic acid. Mix this solution with enough plaster of Paris, ground gypsum or land plaster to make a damp, dark-brown powder. Spread the mixture out on a piece of paper to allow the gasoline or distillate to evaporate, leaving a dry, brown powder with a carbolic odor. Use this as any other lice powder.

R. B. THOMPSON.

## BUILD A SILO

Farmer Putman says, "Put a silo up or put it down, but don't put it off."

Build a silo so as to conserve that 50 per cent of your crop that goes to waste by allowing it to remain in the shock or pile, also to insure your stock against a feed shortage. The only silo that is a failure is the one that is not filled. Build it early so that it will be ready before the crop is mature and ready to harvest.

If you need any information in regard to the silo, see your county agent or write to the Extension Service of your State Agricultural College.

## POULTRY SUGGESTIONS FOR JUNE.

**Produce Salable Eggs.**—After removing the male, observe the following rules: Have clean and sufficient nests; gather the eggs twice daily; keep them in a cool, dry place; market them as often as you can, at least twice a week; do not market any stray eggs that are found in hay lofts, sheds or out of the way places unless you are positively sure that they are absolutely fresh; take no chances; keep the small and very large eggs for home consumption. You can create a demand for your eggs that will increase your profit by observing and carrying out the above suggestions.

It is wise to plan to cull the slow growing weaklings throughout this month. Those with prominent physical defects, such as very crooked tails, lame or otherwise deformities that will tend to handicap future devolpment and egg laying, should be culled out; also get rid of all males just as soon as possible except those that will be needed for breeding purposes.

Please remember that ten to fifty dozen eggs put down in water glass will come in handy next fall and winter. Ask the woman who knows.

# FARM CROPS AND SOILS

## THE SORGHUMS

General climatic conditions make a large part of New Mexico well adapted to the production of grain and forage sorghums. Because of their drouth resisting qualities the sorghums have won a permenent place in the cropping system of the dry land farmer. Corn is not a safe crop in many of the dry farming sections of the State mainly because of its exacting water requirements. The crop requires for its best development a very large supply of moisture during a comparatively short period of growth. Corn has very little ability to adjust its growth to conditions and wait for rain. Sorghums, on the other hand, have this ability and, therefore, are a much more dependable crop in periods of extreme drouth than corn. They cannot be successfully grown in some localities because of the cold climate resulting from the high altitudes.

The sorghums are not grown as extensively under irrigation as they are under dry farming, due probably to the fact that corn can be grown with equal success under these conditions. In the past few years, however, there has been an increase in the acreage planted to these crops. Some of the larger type varieties of the saccharine or forage group give heavy yields of silage, and for this reason are becoming more popular with the dairy men in the irrigated valleys.

The sorghums are also being used quite extensively in the warmer irrigated sections as a catch crop following small grain, and in some instances when corn has failed for some reason or other. Some of the sorghums can be grown successfully. Almost all varieties can be planted after grain harvest and yet have sufficient time to produce a silage crop and some of the short season varieties such as the Ambers, can be planted much later.

The sorghums are classified in many ways but probably the most common way is to group them according to the use to which the plant is put, and thus we find them spoken of as grain and forage or feed sorghums.

The Freed or White Amber Sorgo is perhaps the earliest and surest of all forage sorghums. It is valuable for late planting, but is a relatively light yielder. The Black and Red Amber sorgos are moderately early and under normal conditions will outyield the Freed, but are not so sure in abnormal years. Sumac, also known as Redtop, is a large, late maturing variety and for this reason is not so widely grown in the dry farming areas of the State, but where conditions are such that it can be grown it produces heavy yields of forage. The Japanese or Honey is also a very late maturing variety but it yields quite heavily and is well adapted for silage purposes in the warmer irrigated valleys.

Of the grain sorghums, milo is probably the most extensively grown, because it is hardier and will grow and mature at higher elevations than the other varieties. Milo makes a good yield of grain but the roughage from it is usually not so good as the roughage from kafir. Kafir is somewhat longer seasoned than milo and wherever there is sufficient moisture and time enough for it to mature it gives good yields of grain and the forage is of good quality. It is usually more uniform in growth and therefore easier to harvest.

The cultural methods that should be followed in growing sorghums will differ with the locality, soil and purpose for which it is grown. When sorghum is grown for grain or silage it is generally sown in rows and handled about the same way as corn. If grown for hay it is usually either drilled or broadcasted and handled like small grain or millet. The ground should be thoroly prepared either by plowing or listing. In the dry farming districts listing is usually to be preferred to planting on the flat, as in this way the seed is deposited in the moist soil and the furrows or lists have a tendency to hold the moisture as it falls. The soil is thrown to the plants at each cultivation, thus getting the roots deeper into the soil. The time of seeding will depend in many instances on the available moisture but in all events the planting should not be done till all danger of frost is past and the soil has become warm.

The results of a four years' test with sorghums under irrigation will

**A Good Growth of Japanese Honey Drip Sorghum**

soon be published as Bulletin 119 of the New Mexico Agricultural Experiment Station.

RUPERT L. STEWART.

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### SILAGE CROPS

Now is the time to plant the seed for the silage crop. If you haven't already procured the seed or made some arrangements for it, better get busy.

Many farmers thruout the state have inquired about the possibility of using some other forage crop than corn for silage. Corn is considered as a standard crop for silage, but there are other crops that will make silage which in most respects is equal to corn silage in quality and will produce a greater quantity of feed under the same conditions. Kafir, milo, sorghums, Russian sunflowers, all make a first class silage. The sorghums and non-saccharine sorghums, when grown for silage, should be allowed to become well matured before cutting. The seed should be allowed to become ripe enough to harvest. In case there is an available market for the seed, it is often very profitable to cut the head from the stalk before running the stalk thru the ensilage cutter. The heads may then be threshed and the seeds sold or fed.

The accompanying cut shows a field of Japanese Honey Drip sorghum grown near Canutillo, Tex., across the line in New Mexico. This crop made a yield of 30 tons per acre and under no more favorable conditions than in other irrigated sections of the state. In the dry land farming sections the kafirs and milos can be grown to a greater advantage than corn.

Experiments in this and other states have shown that silage from these crops are for all practical purposes equal to corn and that since the yield is greater and the crop more certain, they are much more profitable than corn.

Don't put off building a silo or filling the one you have because you can't grow corn. Even if you can grow corn it may be more profitable for you to grow some other crop for the silo. There is always some forage crop that will fill your conditions.

J. E. WATT

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From farm bureau and county agent reports for the month of April the farmers and a good many stockmen of New Mexico are thinking of silos. A number of farm bureaus are planning silo excursions. After the experience with drouth for the past two years the silo is cheap insurance. Fully 200 pit silos will go down in the state this year and at least 75 of the above ground type. The Agricultural College and each county agent office have literature and all sorts of information on how to make silos and how to fill them.

# FRUITS AND GARDEN

## THE TOMATO BLIGHT

There are at least five different types of tomato blights caused by as many different organisms. All these diseases are commonly termed blights or wilts. The following brief discussion will describe these diseases and their control measures.

### Southern Wilt (Pseudomonas solanacearum).

As the name indicates this disease is generally found in the more southern states where the climatic conditions are favorable for its development. The infected plants usually wilt very rapidly without losing their green color. The leaves and tender shoots, especially in younger plants, droop and shrivel. When the stem is cut crosswise it will show a brown discoloration, and after a short period a dirty white to brownish white slime that is not sticky oozes out from the cut surface. The fruit is seldom attacked. The organism of this disease attacks not only the tomato, potato and egg plant, but it also causes a serious disease on the tobacco, peanut, nasturtium, ragweed, impatience, and verbena.

Crop rotation is the safest method of control. All crops subject to wilt should be left out of the rotation system.

### Late Blight (Phytophthora infestans).

Late blight usually attacks the fall tomato crop. It is especially prevalent during the rainy weather, when it may even be found in the seed bed. Affected plants appear as tho killed by frost. The disease first shows itself as small, blackened areas on the leaves, stems, and fruits. These rapidly increase in size and cause premature death of the affected plants. Fruits which may not show signs of disease will develop the trouble in transit if coming from infected fields.

Spraying with 5-5-50 Bordeaux gives good results in checking the disease. Spraying should begin with the rainy season.

### Early Blight (Alternaria solani).

This disease occurs in three forms: (1) Early leaves only are affected and may die. This type is not serious. (2) Under favorable weather conditions the disease may spread to the upper leaves. This results in weakened plants and reduced yield. (3) The disease may also attack the fruit and form nail-head shaped spots. This may cause great losses.

Control is secured by spraying with Bordeaux mixture which has the disadvantage of delaying the ripening of the crop 7-10 days. For this reason the spray should be applied only when the blight begins to spread to the upper parts of the plants.

### Sleeping Sickness (Fusarium lycopersici).

This is a very serious disease of tomatoes. It is, however, temperature limited to some extent, being less serious farther north. Infected plants become pale, the leaves wilt and droop, and never recover. This droopiness gives the affected plants their sleepy appearance, hence the name of the disease. On splitting open a diseased root or stem the interior vascular bundles show a brown discoloration. The causal organism is a soil fungus and may be introduced with infected manure or seedlings. Spraying will not control this malady since the parasite lives internally and can not be reached by external applications. Long rotations are advised. There are several varieties of wilt-resistant tomatoes bred by the Department of Agriculture. One thousand pounds of seed was grown in 1918 for use by canners' associations, boys' and girls' clubs, and co-operators of the Bureau of Plant industry thruout the country.

### Yellow Blight (Fusarium oxysporum).

The blight does not usually manifest itself until the plants are blooming, even when the fruits are partly formed. At first there is a slight twisting of the entire leaf, accompanied by a purpling of the veins. This is also followed by a rolling inward, and by drooping of the leaflets and leaves. The foliage takes on a dull green color, the fruit ripens prematurely, but the pulp lacks in flavor and taste. Affected plants cease growing, exhibit a thin, spindly growth, and stop producing. The disease is confined to the root system, which is slowly destroyed; this becomes virulent with high temperature.

There are no definite methods of

control. Long rotations seem to have no value, as the fungus can live in the soil indefinitely.

LEON H. LEONIAN.

## STRAWBERRY CULTURE

**Soil:** The preliminary investigations carried on at State College which have covered four years show very clearly that most of the forty-five to fifty varieties tried out need a loamy soil. The sandy soil practically proved worthless, while many of the varieties have died out in the extremely heavy soil in two years' time. The heavy soil is very alkaline and it is, therefore, difficult to determine whether it was the alkalinity of the soil or its texture.

**Cultural Methods:** The ridge method of culture is the only system that we have found well suited to the strawberry. On the other hand, it is rather difficult to keep the plants properly located on the ridges, since the runners soon propagate enough in the bottom of the furrow to pretty well fill it up. The plant, if left alone, or in its wild stage, grows in clumps or matted together into a kind of sod. The filling up of the furrow not only hinders irrigation, but causes many berries to be produced where the water is likely to spoil them. It is, therefore, necessary to keep the plants confined to the side of the ridges which should be rather low and quite wide. This can be done by cultivating the furrows with a plow and hoeing the plants out. Not a great deal of cultivation can be given while the plants are fruiting, except, of course, the everbearing kind. But, as soon as the crop is off, frequent cultivation should be given and in the fall it is well to mulch the plants with straw as heavily as possible. The depth of the mulch depends largely upon the height of the plants as they should not be kept covered.

**Irrigation:** The strawberry requires a great deal of water. This is especially true in the early spring for the plants begin to bloom very early and if sufficient water is not supplied they will not make enough growth to produce a good crop of large berries. With some of the varieties, it will be necessary to irrigate during the picking time. This makes it doubly important to have the mulch as it holds the berries up off of the ground; and if irrigation is carefully done, out of the water.

It is necessary for best results to keep planting new patches of strawberries and plow up the old ones. This, if anything, is more necessary in this country than in the eastern states, because of the accumulation of alkali on the top of the ridges; and also because there are a number of noxious weeds that are likely to become established in a year or so.

No fertilizers have been tried so far, but a rich loamy soil has given decidedly better returns than the poor soils have given.

JOSEPH W. RIGNEY.

## MORE DAIRY STOCK COMING INTO STATE.

County Agents Orren Beaty and Guy Hamilton of Union and Torrance counties respectively, made a trip to Wisconsin and other states to purchase several carloads of registered and high grade cows, bulls and calves of various dairy breeds. The calves will go to the members of the Boys' and Girls' dairy calf clubs. The Chaves County Farm Bureau will buy better than twenty-five registered and high grade calves for calf club members. A carload of registered and high grade Holsteins were shipped into the lower Mesilla valley in Dona Ana county from the Salt River valley of Arizona.

## COOPERATIVE DIPPING VATS POPULAR.

The farm bureaus in the eastern half of the state are getting their members interested in the construction of cooperative community dipping vats. Stockowners are gonig to dip more than ever this year in order to control cattle lice. In this connection the farm bureaus are putting on campaigns to get the cattle owners to remove ear-ticks from the cattle before running them thru the vat.

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We feel that you do not need any more advice on lice and mites, still at the same time it might be well for you to look over the young chicks as you know hot weather is the paradise for lice and mites. So be careful, be sure, don't be sorry. Look out for lice.

# HOME ECONOMICS

## CHOOSE YOUR FUEL WISELY

The housekeeper who keeps her stove red hot in the summer is unwise indeed, for she wastes both stove and fuel. The housekeeper who supplies her family with the same amount of fuel in summer as in winter is making even a more serious mistake for it is not only a waste of food but an injury to the body. The chief function of the carbonaceous foods, fats and carbohydrates, is to produce heat in the body in much the same way that coal and wood produce heat in the stove, altho they assist in building up the tissues of the body as well.

Fats are most easily digested if uncooked and produce heat and energy readily. For this reason, such fats as butter, cream and olive oil are particularly recommended for persons whose bodies have become weakened by illness. Eggs, nuts and fat meats contain large amounts of fat and are especially useful in cool weather in the diet of active adults.

The carbohydrates are found in most rinds of vegetables and fruits and serve well as an inexpensive source of fuel. Judgment must be exercised in the use of these foods, however, as their overuse is irritating to the lining of the digestive tract due to the abstraction of water from the mucous membrane. Fermentation may occur which interferes with the processes of digestion.

The value of fruits and vegetables lies not only in their carbohydrate content, but in the minerals they contain. These minerals are necessary in maintaining the alkalinity of the blood and in building red blood cells and bone.

The distribution of the fuel for the body thruout the day or week is a problem to be solved by every housewife. Too much fuel food should not be provided at one meal nor should the protein be concentrated in one meal. Vegetables and fruits must be used to provide bulk. The needs of individual members of the family must be considered. Suppose a family consists of five members, a grandfather of 85, an active outdoor working man, the housewife, a child of three and an active boy of fourteen. Each member requires different amounts and kinds of food to supply the energy needs of the bodies—machines, if you please—one operating at a high speed all day, another at a moderate speed, still another, a worn out machine, incapable of being repaired, which must still be kept going for a number of years. It is indeed a clever engineer who can regulate all these machines at the same time and keep them all in good condition. The three-year-old child and the aged person of eighty-five require more nearly the same kind and amount of food than any other two members. Their meals should be light and frequent so that the delicate, yet undeveloped digestive mechanism of one and the worn, possibly overworked digestive mechanism of the other will not be strained and injured. Five very light meals are preferable to three heavier ones for these persons. Breakfast might consist of a very well cooked cereal and some toast. A mid morning lunch of bread and milk, followed by the noon meal of baked potato, an egg and some fruit, together with an afternoon lunch and a light supper of bread and milk with fruit, such as baked apple or any stewed fruit, will be sufficient.

The active outdoor worker would find it impossible to follow the diet suggested above. He needs more tissue building and energy producing foods than either of the other two. The active boy of fourteen will require practically as much food as the housewife but owing to her less strenuous activities her diet should not be as rich in protein as that of the boy. This then is the problem to solve. Some one may say it would be a simpler matter if food material were not so expensive. It would, indeed, be much simpler. But the well developed, strong bodies of our children, men and women, capable of meeting the tasks and problems of today and tomorrow are more dear to us than the price of foods. Fortunately the most nutritious foods are not necessarily the most expensive. The housewife cannot be guided by cost alone. She must know a few of the factors which influence cost if she wishes to select wisely. Cost of production and labor involved are two important factors. Potatoes are a cheap source of fuel because a farmer may with small expense and labor produce many potatoes. In most places fish is a cheap source of protein for no cost of production is involved. Cost of transportation plays a large part in the food problem, especially when housewives demand foods out of season. There is always considerable loss in transporta- keeper pays for this when she buys fruits and vegetables sent in from a distance. In purchasing canned goods one pays for the labor involved in the processes. Each housekeeper must decide for herself in what quantity she shall buy and whether in bulk or package form. Wrappers insure cleanliness to foods and this is often worth the extra cost.

One must not be deceived by the appearance of food materials. For example, red apples usually bring a higher price than green ones and yet the flavor may be very inferior. On the other hand, the cheapest food should not always be purchased. For instance, compare a piece of rump roast at 35c a pound which will yield lean meat costing 45c a pound, while a cheaper cut at 25c may contain so much fat and bone that the edible part will cost from 55c to 65c per pound. Different conditions of living must determine what we must buy. We must think not only in terms of cost per pound but of fuel value if we are trying to make one dollar do the work of two.

Feeding the family is no small task. It is one which requires not only a sufficient allowance but a knowledge of food values and human needs. Not in a week or a year does one become mistress of the art but by long and patient study and the reward is not only in the decreased cost of living but in the increased efficiency of one's family and the great satisfaction of having control over one's surroundings—which makes even a difficult task pleasant.

LUELLA E. MADSON.

### DRYING AS AN AID IN THE SOLUTION OF THE FOOD PROBLEMS.

During the Civil War we learned to can fruits and vegetables because of the shortage of food. Altho canning began as an experiment it proved so successful that it has been continued ever since. Canning has proved its value to such an extent that we now look upon it as a necessary part of our food problem.

The Great War imposed upon us new food problems of the greatest difficulty and we were forced to meet them in part by resorting to the drying of fruits and vegetables on a greater scale than ever before. Fruits in greater amount and of greater variety were dried as the only means of solving the food problem as regards fruits. It is to be strongly recommended that this be continued as a means of preventing waste and of increasing the supply.

Previous to the Great War the drying of vegetables was not practiced much; but under necessity we were forced to it. The experience of the last two years has shown us that it is possible to dry many vegetables that formerly were thought to be incapable of being dried. Among these may be mentioned sweet potatoes, cabbage and tomatoes. It has been found that these vegetables may be dried with scarcely any loss in flavor or food value.

The advantages of drying these and similar foods are obvious. By drying, it is possible to conserve all of the crop and to preserve it at a minimum cost for times when it is out of season, or for times when the crop fails. By drying, it is possible to eliminate the greater part of the weight and thus greatly reduce the cost of shipping. This also makes it possible to ship food a greater distance from the producer to the consumer than it is possible to do in the case of canning. Only by drying is it possible to ship this class of foods long distances to relieve famine in distant parts.

In many parts of the world the food problem is quite as serious today as it was during the war. And in America the problem of the cost of food is just as serious today as it was during the past two years. Anything that can be done to make food cheaper and more abundant at all seasons is of more service to the world now than it ever was, and should be encouraged in every way. The food problem is a serious one everywhere, and the situation will continue for some years yet unless something is done to meet it.

L. A. HIGLEY.

### THE COUNTY HOME DEMONSTRATION AGENTS CONDUCT FARM HOME SURVEY.

Up to date we have gone on the assumption that farm women worked long hours, that their work entailed considerable drudgery, that their homes had few modern conveniences, that they had little or no opportunity for recreation and social advantages and that these are some of the main reasons why boys and girls leave the farm. At the present time there is very little available information on which to base any definite conclusions with reference to the problems of farm women; therefore, in order that the U. S. Department of Agriculture and Colleges of Agriculture in the respective states may have a better foundation on which to build a program of work for rural women, a farm survey is being conducted by the Extension Services of the respective states thru the county home demonstration agents.

It is the desire of this survey to gather some accurate information on the rural conditions as they affect the home. In the near future your county home demonstration agent no doubt will call upon you to fill in one of these questionnaires and your State Agricultural College asks your interest and cooperation in this matter, as the information compiled from these questionnaires will have much to do with the making of a future program for rural women.

The questionnaire serves to bring out the following information:

1. The length of the farm woman's working day.
2. The amount of labor she has to do during the day.
3. The assistance she has in carrying on that work, including labor saving devices.
4. The sanitary situation in the home.
5. The nearness of the family to school and other educational and social agencies.
6. The part the woman takes in social activities.
7. Her recreation or lack of recreational opportunities.
8. A hint as to the agricultural agency in the county which has been most helpful in her work.
9. What she believes her biggest problems to be.

# FARM BUREAU

### THE PROGRAM OF WORK

In connection with farm bureau work the farmer and stockman hear the term "Program of Work" used quite frequently. This term is of the utmost importance and it should be thoroly understood by every farm bureau member in the State.

The program of work contains the big jobs to be worked out or the outstanding problems of the county as a whole or of some of the communities. These jobs or problems are the fundamental reason why a farm bureau is organized in a county. Without a program of work it would be difficult to perfect and maintain a farm bureau organization. Without a farm bureau it would be difficult to work out or solve these problems. It is therefore quite evident that the program of work is fundamentally essential in farm bureau work. In order to be permanent the farm bureau must have certain definite things to do. These are determined upon after a thoro study of conditions in the county by the county agent and a few of the leading farmers and stockmen. Four, five or six of these jobs are made up into an annual program of work and presented to the people as a whole at the big annual meeting of the farm bureau for adoption.

#### Officers Determined Thereby.

As further evidence of its importance is the fact that the officers and committeemen of the farm bureau are selected in terms of the program of work. If some phase of dairying is included in the program of work, for example, a man of dairy experience is selected and the same scheme applies with all of the problems to be dealt with. In this way the farm bureau utilizes the best experience of its members. This experience properly applied will tend to solve most problems that come up for farm bureau consideration, providing the proper interest is taken in the organization.

The program of work is handled by county-wide and community committees. To work out the problems included in the work it is necessary for all of the farm bureau members to study their program of work and co-operate in every way possible with the various committees.

To some the farm bureau may have omitted a very important piece of work in its program. Co-operation will get jobs out of the way so that others can be tackled.

J. W. KNORR.

## COMMITTEE WORK IN THE FARM BUREAU

Practically all work undertaken by the farm bureau is done by committees. Problems in the community are handled by the community committee. Problems covering the entire county are handled by the county-wide executive committee. Members of the various committees, men and women, are selected because of their experience along some definite line of work. Each definite job undertaken by the farm bureau is termed a project.

In developing these committees it is first necessary to develop the program of work, as is mentioned in another article in this issue of the Courier. For example, in ten communities in a county there is some dairying done. Perhaps there are from 10 to 30 dairymen in each community. Out of that number five may be making money. Why are they making money and not the others? Is it a question of proper feeding, proper management, of keeping milk records and culling out the poor milkers? Are the conditions suitable in the county for dairying? Should the industry be stimulated and encouraged rather than discouraged? After considering the situation from all angles the farm bureau attempts to build up the dairy industry and to increase the number of dairymen that are making the business pay.

The farm bureau then has a dairy project in its program of work. On the executive committee it has the most successful dairyman in the county to serve as project leader. In each of the ten communities there is a successful dairyman on the community committee. In all there are eleven dairymen working in the farm bureau to stimulate the dairy industry. The people of the county know they are successful. They will have confidence in anything that they recommend for improving the dairy situation in the county. This group together with the county agent and the information that he has available thru the agriculural college and the federal department of agriculture will beyond a question of doubt get down to bed rock and work from the bottom up in order to make dairying pay.

The same plan is carried out with any problem that exists in a county. It may seem difficult to many for the farm bureau to get these experienced men behind the organization. Of course there are some who will not serve. In many cases it is a matter of diffidence but it is very gratifying to note the way the farm bureau organization develops local leadership among the farmers and stockmen. The men and women thoroly interested in the welfare of the community and county in which they live undoubtedly see the possibilities of the farm bureau. This is evidenced by their willingness to serve and pass on to their neighbors the fruits of their labors and the wisdom their experience has developed.

J. W. KNORR.

## FARM BUREAU NEWS NOTES.

Practically all of the farm bureaus in the state have arranged a series of corn and potato variety test demonstrations. Last year the San Juan County Farm Bureau reduced the number of varieties of corn from twenty-three to two. Only the best should be grown.

A twelve-page issue of the Weekly Star (Roswell) was gotten out by the Chaves County Farm Bureau two weeks ago. The issue contained about twenty articles written by farmers and stockmen of Chaves County. These articles were very interesting reading and more than that they contained valuable information, the result of practical experience. Such information is valuable to people of the county because these men had the local experience. The farm bureau idea surely spreads when the people begin to understand it.

### DE BACA COUNTY COMPLETES FARM BUREAU

The De Baca County Farm Bureau was completed at a big county-wide meeting held at Ft. Sumner, the county seat, May 26. Constitution and by-laws and program of work were adopted and officers selected for the year.

### NEXT!

San Juan, Colfax, Union, San Miguel, Quay, Curry, DeBaca, Roosevelt, Chaves, Eddy, Otero, Dona Ana and Luna counties have farm bureaus. In these counties committees are at work on some of the big outstanding problems. The solution of these problems will tend to make farming and stock raising more profitable.

The last issue of the Farm Bureau News of Eddy county contains a cut showing the members of the executive committee in session.

### FARM BUREAU PICNICS

A number of farm bureaus in the state are planning to hold picnics this summer. Most of them will be held during the months of July and August. Picnics afford an opportunity for people from all parts of the county to get together. They keep up the farm bureau spirit.

### OTERO COUNTY HAS A FARM BUREAU

The Otero County Farm Bureau was completed when a large group of farmers and stockmen met at Cloudcroft, May 15, and adopted constitution and by-laws and a program of work and selected its officers for the year.

While looking for oil below the ground don't forget to farm the top of it. Oil's well.

## BOYS' AND GIRLS' CLUBS

### STATE LEADERSHIP

Mr. Chas. Orchard Smith would have us say "Adios" to his many friends and acquaintances in New Mexico. He has resigned as State Leader to accept a position in club work at Cornell University, Ithaca, N. Y.

Mr. Smith came to New Mexico a little more than a year ago and has worked earnestly for the advancement of club work in the State. Under his leadership the work has made splendid growth as the results of 1918 club reports have already shown. Twenty-five thousand dollars clear profit to the state is no small matter and this was done by three thousand earnest boys and girls of New Mexico. This took work, co-operation and organization. Mr. Smith would accord much of this success to the county and local club leaders, yet we must give him due credit for heading the organization.

Club work is a living, growing thing, but does not develop of itself. It must have leadership. A normal, steady growth is more promising than a hot bed, mushroom growth, and we feel that the former has been the characteristic development of club work in New Mexico. Mr. Smith's work in New Mexico has contributed much to this development. He now wishes us well and passes on to another field of labor. In his new field we wish him success and happiness. "Adios."

Mr. R. G. Foster has accepted the position of State Club Leader for New Mexico. Mr. Foster has been a successful club leader in Colfax county for the past three years. The Extension Service has recognized the quality of his work and has now called him to the state leadership.

Mr. Foster graduates from the Agricultural College this year and is writing his thesis on club work. He is familiarly known as "Bob."

### CLOVIS BANKER BACKS UP CLUB WORK

The following letter is an indication of the support bankers in New Mexico are giving the club work. The signer has said that this generous offer is not altruism but a means for insuring a permanent banking business.

"First National Bank, Clovis, N. M.
"March 31, 1919.

"Mrs. C. V. Steed,
"Clovis, N. M.

"Dear Mrs. Steed:

"I am advised by Mr. E. Peterson, county agent, that you have been appointed club leader for Curry county and I wish to renew my offer to the children of Curry county for 1919, along the same lines as we handled the loans to club members last year.

"I feel that a business education is very essential to children along with their literary work and you may assure them that the First National Bank of Clovis is ready to loan them whatever money they may desire on their personal note without any security, and render them any other personal or financial assistance they may desire.

"Trusting the teachers of the various schools and others, who realize the importance of this work, will cooperate with you in every way to make this a great year for the work, and with kindest regards, I remain

"Yours very truly,
"C. W. HARRISON,
"President."

## A SUCCESSFUL GARDEN CLUB MEMBER

Frank Fries of Las Vegas tells us of his achievements in spite of difficulties. In 1918, his second year of club work, the value of his garden was $156.55—the cost of production $39.70. giving Frank a profit of $116.85.

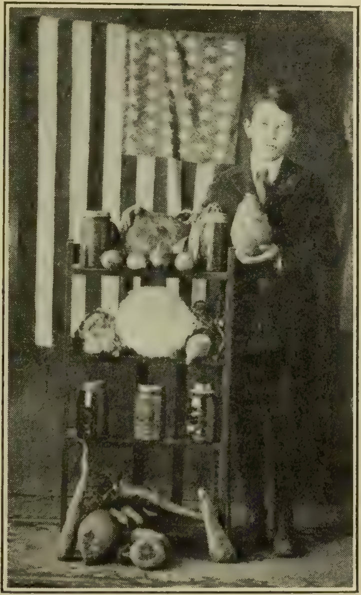
In 1917 Frank was state champion garden club member. The picture accompanying this story shows somewhat the quality and variety of vegetables grown by Frank, as well as the vegetables canned by him—truly he is a soldier of the soil. The following story in Frank's own words will be of interest.

"I began club work sometime in May, 1917, being a pupil in the Normal University of the State of New Mexico at East Las Vegas.

"Mr. Mathew, a professor in our school, went to each room and asked all pupils who cared to volunteer for garden club work to come to his room after school, so I went. joined the club and completed the project with great success.

"In 1918, knowing that it was necessary for every boy and girl to do his part to help win the war, I worked all the harder to make my garden a success. During the early spring I made my plans for the garden with the help of Mr. Neilson, our county club leader. When I had some of the vegetables planted for about five weeks the house that was in the lot caught fire and my garden was trampled all over and all the plants killed. But I did not lose hope, but planted it over.

"The bean bugs were rather thick, so I bought a hand sprayer and some arsenate of lead and sprayed once every week, and got rid of nearly all of them. I planted mostly for home use, as our family is large.



Frank Fries and His Garden Products.

"I find that it is not hard for any boy or girl to conduct a successful garden if he is not afraid to work, because the government is furnishing expert instructors and we are fortunate in having here in Las Vegas so expert an instructor as Mr. Neilson. I have invested the proceeds of my garden in War Savings Stamps and Liberty Bonds.

(Signed) "FRANK FRIES. JR.,
"E. Las Vegas, N. M."

## CLUB WORK IN THE FARM BUREAU PROGRAM OF WORK.

More and more is club work being regarded as a serious undertaking of great value in developing the agriculture of a county. For this reason it is taking a greater and greater place in the farm bureau program of work. If the hopes of farm bureau officers prove fruitful, the results of club work during the next few years will warrant a constantly growing place for club work in the farm bureau program. The possibilities of club work as a means of improving the agriculture of a county are limited only by the agricultural possibilities of the county, and so there is no doubt that the programs now being planned will result in the success expected.

In Curry county it seems that every one connected with the farm bureau looks to club work for its future development. Union county contributes a large share of its fast development to the club work of the past and present. In Chaves county the community committees at East Grand Plains has been instrumental in organizing a calf club which will import between twenty-five and forty dairy calves. Similar work will likely be conducted by the farm bureau at Hagerman and Berrendo in the same county. The shortage of milk has led the community committees to the thoughtful consideration of calf clubs as a means of stimulating the dairy industry.

The same thing is being done by farm bureaus thruout the state along different lines of farming, stock-raising and home making. As a part of their program of work the farm bureaus are organizing calf clubs, sheep clubs, pig clubs, bean clubs, corn clubs, garden clubs, cooking and sewing clubs and other clubs which will lead to community development. Clubs are formed only along lines which will lead to permanent and practical ends in establishing a fuller and richer rural life for New Mexico.

Land cannot be forced to produce something to which it is not adapted. Study its capabilities and then plan the planting accordingly.

One of the secrets of success in dry cleaning is knowing the stain and then using the right cleaning agent.

The San Juan County Farm Bureau will hold its second annual picnic on July Fourth.

## EXTERMINATE THE LICE

An effective remedy for lice on chicks is a small quantity of melted lard rubbed under the wings and on top of the chick's head.

The free use of kerosene or crude oil on the roosts and in the cracks of the house will help to exterminate mites.

Whitewash is effective against all vermin.

It is possible and thoroughly practicable to keep the poultry flock reasonably free from lice and mites. Such practices should be the aim of every one who is endeavoring to establish a successful flock of poultry.

Market white-shelled and brown-shelled eggs in separate packages. Eggs irregular in shape, those which are unusually long or thin-shelled, or which have shells otherwise defective, should be kept by the producer for home use, so that breakage in transit may be reduced as much as possible.

All cockerels not intended to be kept or sold for breeders should be marketed when they reach suitable size. Such birds confined in a home-made fattening battery or coop and fed a fattening ration for a week or ten days will not only increase in weight but bring a better price on the market, because of improved quality.

Growing chicks that are kept closely confined need much greater attention along all lines. Green feed must be furnished, that is, green feeds that have not wilted down to almost the decaying point; the yards must be kept sweet, and culling also is more essential when closely confined than when on free range.

Growing chicks will not eat too much if they have plenty of range so they can get the desired exercise. A good growing mash should be accessible at all times, one with plenty of bone meal ground very fine, fine ground oats or barley. The best success with any mash is to have it ground very fine. This is a point that should not be overlooked.

One benefit of farm bookkeeping: It often prevents repaying bills.

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# THE NEW MEXICO FARM COURIER

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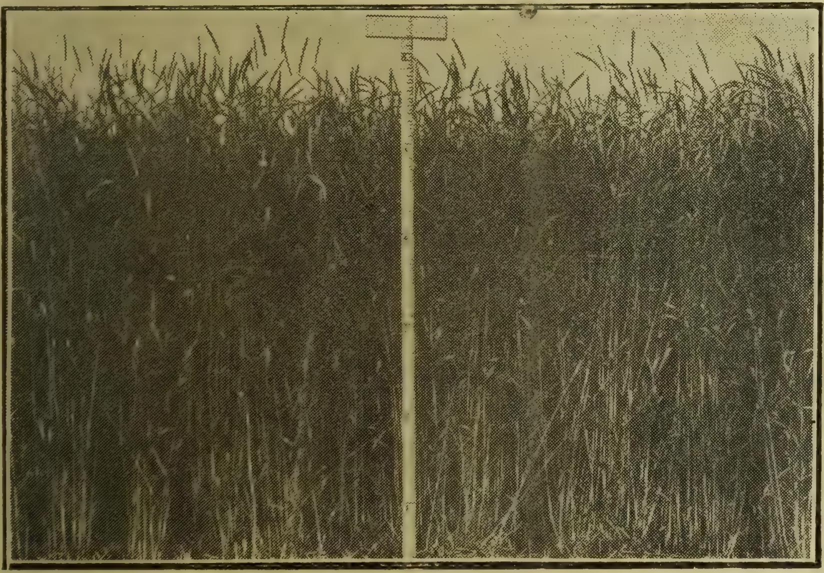

Rosen Rye Growing on College Farm

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Maude Wyman Jenkins, Eddy Co., Carlsbad
Lola Armijo, Santa Fe Co., Santa Fe.
Edith M. Hurley, Union Co., Clayton.

# EDITORIALS

## THE RANGE GRASS

*By President Crile*

All the cow and sheep men smile now. There is a peculiar happiness in the smile that has not been seen for two or three years. It is the green grass that makes it. So far as I am able to learn, there has never been in New Mexico a better year for grass than this year; and when old-timers speak about the good old days of green grass, if pinned down to it and questioned carefully they admit they have never seen a better year than this one.

Unfortunately, New Mexico is short a great many cattle and a good many sheep, by reason of the long drouth and severe winter. This is both unfortunate and fortunate; because the shortage of cattle will permit a great deal of grass to go to seed, and with our usual July and August rains, the range ought to reseed itself. I saw, on the first day of June, grama grass in head; and I think I should not worry if the grass is not eaten down to the ground this year, because it needs a little rest and some little reseeding, and I am satisfied that it will have it this year.

In spite of the good grass and the splendid prospects for a good year, I hope that many ranchmen have taken advantage of this good rain to grow a lot of ensilage, as well, and put it away; and if next year you do not need it, just leave it corked up and wait until the next year. Just remember there will be a year coming when you will need it.

But to those who have not observed it heretofore, the green mountains and valleys teach one thing, and that is that New Mexico grass won't die. I saw grass a year ago—or rather, places where grass was; and you could find nothing that was green or that seemed to be green; and in the same places I have seen grasses this year four to six inches high. Where before you could see nothing green, you could see nothing now but green. The cattle are shedding off and getting fat. New Mexico has the staying qualities.

## MUTTON

*By President Crile*

The very decided rise in the price of sheep in the past few years has been caused primarily by reason of the advance in wool, rather than in mutton. The sheep is a dual-purpose animal, and it must always be reckoned with according to the major purpose of its keeping; whether for wool or for mutton. If you expect to make the larger part of your income from your sheep on mutton, then of course you will keep the mutton breeds, such Shropshires, Dorsets, etc. If the income is to be chiefly on wool, then you will, naturally, follow the Rambouillets or the Delaines. The sheep industry is such in this state that it seems by fairly unanimous consent, to approve of the Rambouillet, for the range.

From the standpoint of the farmer, the work with sheep ought to fit itself in with the ranchman. An experiment which we have carried on at State College the past year indicates clearly that farmers can produce a lamb known as the Easter lamb, that will weigh from 60 to 65 pounds. If you will look up the markets for past years you will find that this is the very highest lamb market of the entire year, and at present prices an Easter lamb ought to command from $12 to $14. This sort of sheep growing on the farm is all but certain of financial success. The ewes are readily cared for; they consume a great deal about the place that otherwise would go to waste; it requires some care and attention, and perhaps a few nights up and about with the sheep; but it certainly would be worth while. This is a phase of mutton growing that we should develop.

The demand for mutton will surely increase, because the average American family now consumes only five pounds of mutton per year as against 71 pounds of pork and 67 pounds of beef. The growing of mutton, and especially of Easter lambs, looks like one of the surest things that the farmers might engage in.

## Dry Land Alfalfa Demonstration.

The Curry County Farm Bureau has been urging the planting of alfalfa in rows. Mr. R. P. King, in the Bellview community, planted alfalfa in rows and also broadcasted some three years ago. On May 21, the alfalfa planted in rows and cultivated was twenty-seven inches high while the broadcasted field was only fifteen and one half inches high. More legumes are needed in the dry farming areas of New Mexico.

Over 2,000 people were fed at the third annual meeting of the Dona Ana County Farm Bureau on May 17. This is some indication of the appreciation the people of Dona Ana county have for the farm bureau.

# LIVESTOCK

## Silage vs. Alfalfa Hay

Alfalfa hay is easily produced in the irrigated portions of the state and usually large quantities may be purchased during the cutting season at a reasonable price. In the dry farming districts where alfalfa is not so readily produced cow pea hay has proven fully equal to it in feeding value and not a single season has passed at the Tucumcari Station that a fair crop of it has not been produced. Under irrigation, corn, sorghum and sunflowers may be depended upon as silage crops, and under dry farming conditions where these crops are not so certain, kafir, milo and the other grain sorghums seldom fail to make sufficient growth for a good quality of silage. Dairymen, therefore, in nearly all parts of the state have opportunity to grow each summer a sufficient quantity of hay and silage to carry their dairy herd through the months when pasture is not available.

Three experiments have been conducted at the Agricultural College to determine the effect of substituting silage for a part of the alfalfa hay in a dairy cow ration on the production and cost of milk. Eight cows were used in the first experiment, sixteen in the second and eight in the third, making a total of thirty-two cows in all. In each experiment the cows were divided as nearly as possible into two even, uniform lots, special attention being given to yield of milk, butterfat and period of lactation. The cows were selected from the college dairy herd and consisted of both purebreds and grades of the different breeds kept for instruction, viz. Holsteins, Guernseys and Jerseys.

The experiments were divided into four periods of twenty-five days each and the lots were reversed to the feed of the other lot at the end of each period, five days being given for the cows to become adjusted to the change in the roughage rations, the grain remaining constant for all lots.

The alternating of the feeds by periods was intended to overcome any difference that might exist in the individuality, productivity or other conditions of the two lots of cows. It was a mixture of three parts ground corn, two parts wheat bran and one part cotton seed meal and the quantity given each cow was regulated by the quantity of milk she gave, one pound being fed daily for each five pounds of milk that she gave. In each instance one lot was fed corn silage, alfalfa hay and grain, while the other received alfalfa hay alone and grain. The silage was fed at the rate of thirty pounds per head daily and the quantity of alfalfa was regulated by the quantity they would eat without undue waste.

The average result of these experiments may be taken as fairly conclusive and as indicating the results that one may expect to obtain from similar rations.

The following is a brief summary of the average results of the three experiments:

At least one-third of the alfalfa hay in a dairy cow ration may be replaced by silage without material reduction in the quantity of milk and butter fat, but contrary to the usual belief there is no proof that the addition of silage to a roughage ration of alfalfa hay, on account of its succulence, increases the milk flow and keeps the cow in a more healthy condition. The quantity of silage required to replace 100 pounds of alfalfa hay varied much in the three experiments and also in the different periods, but the average was 245 pounds. This result gives a feeding value of slightly over $8.00 per ton for corn silage when alfalfa hay is worth $20.00 per ton.

The difference in the quality of milk and butterfat produced by the two rations was small and favorable to the alfalfa hay, but in every instance the cost of production was markedly reduced by the addition of silage. Bulletin No. 120 will soon be published by the Experiment giving the details and results of these experiments in full. It will be sent free to any one interested on application to the Director.

LUTHER FOSTER.

## Care of Milk

The souring of milk and the development of undesirable odors and flavors in it are due chiefly to the growth of bacteria. It is true that milk readily absorbs undesirable odors to which it is exposed, and bad flavors are sometimes due to feeds with pronounced flavors such as turnips, rape, or cabbage or weeds obtained in pastures, but in the great majority of instances bacteria are responsible for milk of poor quality. They are always responsible for its souring.

At one time there was quite a general belief among dairymen that thunder storms caused milk to sour. Experiments show that when milk is kept just as cold during a thunder storm as at other times it sours no more quickly. The higher temperature usually accompanying a season of electrical disturbances causes the milk to become warmer than it would be otherwise, unless carefully handled, the bacteria grow more rapidly and the milk sours more quickly, but only because of the higher temperature.

The greatest source of milk souring bacteria is to be found in the milk utensils. Some organisms will remain in the utensils from one time of use to the next, even when careful washing and sterilizing are practiced, and when careless methods are used myriads of them remain. Any particle of milk that may adhere to the sides of utensils or stick in corners or crevices will form food material for bacteria which rapidly develop if a little moisture is also present. When milk is placed in the utensil again the bacteria are ready to grow in it and it soon sours or develops bad flavors. Thus it is apparent that the degree of thoroness with which milk utensils are washed and sterilized is a large factor in determining the keeping of milk. Milk utensils should always be rinsed carefully in lukewarm water to remove the milk, then washed thoroly with hot water and a non-odorous washing powder such as salsoda and lastly scalded with boiling water or, better exposed to live steam if it is available. After scalding or steaming they should be placed where they will drain thoroly. Thoro draining and drying is essential because bacteria cannot grow without moisture and a thoroly dried vessel will keep sweet when another washed and sterilized under the same conditions but with a little moisture left in it will develop foul odors. But never dry milk vessels with a cloth because it will undo the effect of sterilization. If they are placed so they will drain well immediately after sterilizing they will dry from their own heat.

Milk souring bacteria are found on the hairs of the udder and sides of the cow, in her mouth, in the air of the stable and in fact are quite generally distributed about the dairy. Any dust or foreign material of any kind that falls into milk during milking or any of the processes of handling carries great numbers of bacteria, not only the milk souring type, but those which may cause undesirable fermentations. Thus the production of a good keeping milk is dependent not only on the care of utensils but clean cows, clean stables, clean milkers and cleanliness in general.

The second factor to consider in the care of milk is that of temperature. If it were possible to produce milk without any bacteria at all it would keep at any temperature. Since that can not be done it is necessary to cool milk immediately after milking to as low a temperature as possible in order to retard the growth of the organisms which gain entrance even under the cleanliest conditions. Best results are secured by cooling to 50° Fahr. or lower. Of course, this is possible only when ice is available. When ice is not available it should be cooled to as low a temperature as possible with the coldest water available and the vessel containing the milk allowed to stand in cold water in order to maintain the low temperature.

In conclusion it may be said that the two magic words in the care of milk are "clean" and "cold."

O. C. Cunningham.

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"The difference between one man and another is not mere ability—it is energy."—Arnold.

## Stockmen Are Benefited by Killing Wild Animals

During 1918 hunters of the United States Department of Agriculture and New Mexico killed 83 gray wolves, 34 mountain lions, 15 stock-destroying bears, 1, 860 coyotes and 359 bobcats in our state. These animals were killed at a total expense of $24,860, and the saving effected by their destruction, on the basis commonly accepted by stockmen, amounts to $215,950 annually. Hunting during the spring period destroys many young, and thus prevents increase. Many coyotes not accounted for in the figures given were destroyed by poison. The killing of these animals marks a long stride in extermination of gray wolves and other predatory animals, and the saving is cumulative for years to come. The big gray wolf has been reduced from 400 to less than 25, chiefly thru intensive trapping of these animals the last three years by the organized federal and state forces.

No relaxation in the work of destroying predatory animals is justifiable until these prying outlaws are exterminated. Organization, up-to-date methods, uninterrupted efforts and high-class personnel are required to exterminate them within a few years. Organized operahunter forces to meet the situation generally and to supervise cooperative work. Intensive work for a few years is manifestly more economical than partial efforts over a longer period.

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The moderate use of carbonated soft drinks is by no means injurious, says the Department of Agriculture—always provided they are made of wholesome materials and under sanitary conditions.

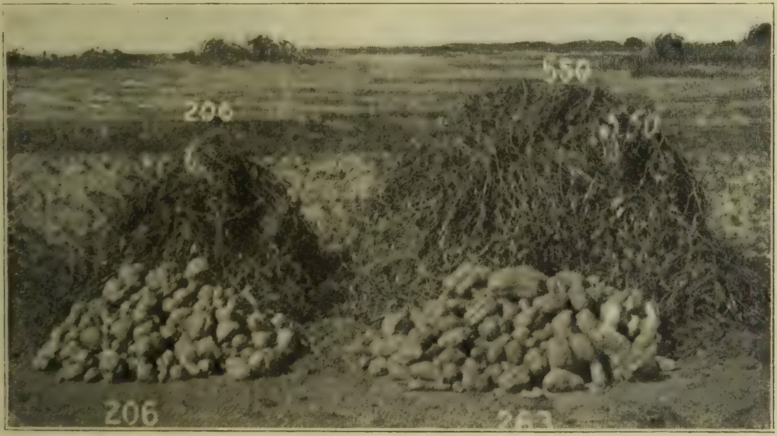
# FRUITS AND GARDEN

## The Sweet Potato

The sweet potato, unlike the Irish potato, belongs to the warm season vegetables and requires a comparatively long period to develop to its fullest extent. In New Mexico the sweet potato is well adapted to the lower and warmer irrigated valleys, as well as to the plains districts in the eastern part of the state, where water for irrigation can be supplied. As a rule, the growing season in our northern, elevated and mountainous regions of the state is generally a little too short for the best yields of this crop. The sweet potato is a comparatively easy crop to grow in those localities where it is adapted to the soil and climatic conditions, and as a rule the yields can be made very satisfactory. Unlike many other vegetables, as yet, it is not troubled with any serious insect or plant pests.

The New Mexico Experiment Station has conducted a number of experiments with this crop, and considerable data have been recorded in Bulletin No. 70 on the best soil, best methods of propagation and transplanting, cultivation, irrigation, harvesting and keeping.

The sweet potato can be grown on almost any kind of soil, but the best yields, as a rule, are secured from a rich loam. A soil that is *too sandy* or *too adobe* does not produce the best yields or smoothest tubers. The heavy adobe soils are liable to produce tubers that are irregular in shape and size, having a very rough surface. The heavy soil does not permit the tuber to develop uniformly; this is particularly true when the soil is allowed to pack or to dry out.



**The smaller piles were produced in plat No. 2; the larger piles were produced in plat No. 1. The figures represent the weight in pounds.**

The cultivation of the sweet potato in this section, under irrigation, is comparatively easy and if the ground is not fouled with weeds the cultivation will be much cheaper. A good method of cultivation is to plow the dirt two or three times to the plants. The dirt which is plowed to the plants comes off the side of the adjoining ridge, which has no plants. Two to three cultivations are enough during the year. After each plowing the work is completed by further drawing the loose dirt closely up to the plants with a hoe. While this is being done, the weeds along the row can also be removed. By this method of cultivation, the row of plants, which were transplanted on the side of the ridge, is finally shifted to the middle of the ridge. At the Experiment Station, the 1908 experiments were cultivated on May 27, June 20 and July 13.

The sweet potato is one of the most drouth resistant plants, and it will produce a crop with less water than almost any other vegetable. The fact that the sweet potato is very drouth resistant does not mean, however, that the grower should not use as much water as is necessary to produce the best yields. At this Station from six to ten irrigations have produced good yields. It has also been observed that if the sweet potatoes are kept well irrigated and the surface soil moist a larger crop is produced and the tubers are nearer the surface of the ground than when the surface soil is allowed to dry out too much. If the surface soil dries out too much the roots of the sweet potatoes tend to follow the moisture and go down deep into the soil. In such cases there is a development of the root seemingly at the expense of the crop, and the tubers are down quite deep in the soil besides. It is believed that if more frequent but lighter irrigations were given instead of heavy irrigations at long intervals better results could be obtained. Aside from a larger yield the sweet potatoes would form near the surface and it would be much easier to dig them out. When the sweet potatoes are near the surface they can be plowed out very easily without bruising them very much. If the tubers go down deep in the soil it is quite difficult and expensive to plow them out without bruising them.

Sweet potatoes, when properly grown on good sweet potato soil, should produce quite satisfactory yields. Some varieties, naturally, are heavier yielders than others. At the Experiment Station in three years' trial the average yield with the Bermuda type was 18,371 pounds per acre.

It is often believed among farmers that pruning or raising the vines tends to increase the yields. The results of the experiments conducted at the Experiment Station in pruning the sweet potato vines

| Plat 1907 | Area in Acres | Pruned back Diam. Inches | Actual yield lbs. per plat | Estmtd yields Acre in lbs. |
|---|---|---|---|---|
| 1 | 1-12 | 12 | 377 | 4524 |
| 2 | 1-10 | 24 | 488 | 4880 |
| 3 | 1-10 | 36 | 759 | 7590 |
| 4 | 1-10 | check | 1104 | 11040 |
| 1908 | | | | |
| 1 | 1-125 | 12 | 60 | 7500 |
| 2 | 1-125 | 24 | 100 | 12500 |
| 3 | 1-125 | 36 | 113 | 14125 |
| 4 | 1-125 | check | 176 | 22000 |

indicate that there was no benefit derived from this operation.

From this table it seems that during both years the unpruned plants produced the heaviest yield. The plants pruned to 12 inches in diameter produced the least, while the plants pruned to 36 inches produced more than any of the pruned plants. If pruning the vines does not increase the yield, as was the case in these experiments, then there is no object in disturbing the vines. The pruning of the vines is a tedious and expensive operation. The soil used in the first year's experiment was very sandy.

It appears that the plant needs all of the vine growth it produces to make a better crop. The Experiment Station has conducted investigations to ascertain the relationship between heavy and light growth of vines to the yields produced. The following table gives the weight of vines and tubers from two one-ninetieth-acre plots:

| Plat | Weight of green vines | Weight of tubers harvested | Difference between vines and tubers | Estimated weight per acre of vines | Estimated weight per acre of tubers |
|---|---|---|---|---|---|
| | lbs. | lbs. | lbs. | lbs. | lbs. |
| 1 | 550 | 263 | 287 | 50,500 | 23,670 |
| 2 | 206 | 206 | 0 | 18,540 | 18,540 |
| Difference | 344 | 57 | ... | 31,960 | 5,130 |

From the above table it is seen that the plat producing the heaviest vine growth had the larger yield in sweet potatoes. It was noticed when the crop was being harvested that while plat No. 1 produced the largest yield the potatoes were not as uniform in size nor as smooth as those from plat No. 2. These figures indicate that, other conditions being equally favorable, the larger the vine growth the heavier the crop.

FABIAN GARCIA.

## Sweet Potato Diseases

It has been estimated that the annual loss due to sweet potato diseases in the United States alone is approximately from ten to fifteen million bushels. If we stop to think that most of this loss can be saved by a little care, then we can easily appreciate the value of a working knowledge about these diseases. Some of the most important ones are briefly discussed in the following paragraphs:

*Black Rot*—This is the most dreaded of all sweet potato diseases. It is found in the seed bed, in the field, and in storage houses. Irregular, dark areas, varying in size from that of a dime to a silver dollar, appear on the potatoes. These spots extend only thru the skin and are hard to the touch. If the root is injured, the disease follows the line of injury. Sprouts from diseased potatoes are dwarf and have yellow foliage. In this latter case the end of the shank is blackened and charred, the leaves of the infected sprouts wither, and turn black and crisp. In early stages of infection, however, and in the absence of black shank stage, the rootlets are usually affected. The early symptoms in the field are the same as those described for the sprouts in the seed bed. Black, girdling spots on the vines, usually confined between two leaves, are the first symptoms on the plant. Parts above these black spots wilt and die. At digging time diseased roots are paler in color than the healthy ones of the same variety. They have a bitter taste which becomes more marked the longer the roots are kept in storage. Altho the black rot is superficial, the bitter taste, due to its soluble nature, is imparted to the entire root in cooking.

*Control Methods*—Discard all potatoes with sunken, dark spots, or any sort of injury on the surface. Examine very carefully every seedling and destroy those with darkened roots or blackened shanks. Follow a judicious crop rotation. Treat the sprouts with 3-3-50 solution of Bordeaux mixture before planting. Dip the sprouts in the solution for a few minutes in a shaded place, then plant.

*Stem Wilt*—This disease is also known as "vine wilt" or "yellows" and has its origin in the seed bed. In badly infected soils the plants die a week or two after being set out. They first lose their green color and turn pale. When pulled out they will be found to be cracked lengthwise. Often, particularly in moist seasons, infected sprouts continue to grow, sometimes until digging time, and even produce fair-sized roots, provided no secondary parasites set in. Yellowing of the affected stems and vines, while a frequent symptom, is not always pronounced, and thus diseased plants may escape notice, develop roots which are full of the organism responsible for the disease, and spread it the following year on a much larger scale. In badly infected roots in storage the disease may produce a punky, dry rot with a cinnamon odor and a deep chocolate color.

*Control Methods*—Select seed potatoes from the best yielding hills. Split the stems down to the roots; if the stem is blackened inside, the disease is present, and no potatoes should be taken for seed from such hills. Treat seedlings with Bordeaux mixture.

*Storage Rots*—There are numerous organisms which attack sweet potatoes in storage and bring about many rots and heavy losses, Ninety per cent of sweet potato losses are due to soft rot, a characteristic storage house disease caused by a common mold. Affected roots become soft and watersoaked. Later on fermentation sets in and undesirable odors are produced. Proper ventilation, control of moisture in the storage houses, elimination of previously injured potatoes from the storage are the chief control measures. The best means of natural ventilation is from the sides. The bins should be constructed with false slat bottoms, raised 3-14 inch from the floor. The sides should be slatted, and at least eight inches from the wall, this space being connected directly with the opening to the floor below. Aside from side ventilators there should be a series of roof ventilators to carry off moisture. Whenever necessary, artificial heat and drying should be applied to storage houses. Fans or blowers will serve to lower the humidity. Since moisture in storage houses is the controlling factor in the occurrence of soft rots and other storage rots, it will well pay to check the moisture in sweet potato bins.

LEON H. LEONIAN.

# FARM CROPS AND SOILS

## Rye

Rye ranks first among the cereals as a pasture crop. It cannot take the place of alfalfa or other summer pasture crops during the hot weather, but it fills a gap which is often left vacant during the winter months when other pasture crops lie dormant. Some suitable crop should be used during this period for the most profitable stock production.

Rye has a tendency to stool profusely, it grows thru the cold weather which other cereals cannot withstand; and it will stand a great deal of tramping. These qualities make rye very desirable for a pasture crop. It is very nutritious and palatable, and due to its rapid growth, it furnishes a great deal of pasturage during the coldest months. It takes less heat to produce growth than any of the other cereals.

The picture on the cover of this issue of the Farm Courier, taken May 30, 1919, shows a crop of Rosen rye growing on the College farm. This rye was seeded in November, 1918, pastured during January and part of February, and then left to produce seed.

Altho rye does best on a pliable, fertile loam or clay soil, it will produce better results on the poorer soils and extremes of climate than the other cereals. It does well on reclaimed lands, where acidity exists. Rye should be seeded with a drill at the rate of about sixty pounds per acre in a well prepared seed bed. The seeding should be done in the early fall if it is intended for a pasture crop, or in the late fall for a grain crop; but greater returns can be expected from other cereals if a grain crop is the main object.

Rye should be irrigated frequently to prevent the growth from being retarded. It should not be pastured when wet, or before it gets a good start in the fall, yet, enough stock should be kept on it to prevent jointing until the pasture season is over. After this time, the crop of rye may be allowed to grow to sufficient height and then be plowed under as a green manure, and the land used the same season for some other crop.

George R. Quesenberry.

## Another International Show

The Chicago Board of Trade, desiring to stimulate and improve grain and forage production, offers $10,000 in premiums to exhibitors of grain and hay at the International Livestock Exposition of Chicago during the first week in December. This should add materially to the value of this great livestock exposition.

It is suggested that the success or failure of a tractor depends on a number of conditions, among them are a competent operator, sufficient work to warrant the use of such a machine and the timeliness in doing the work made possible; the farm layout, grades, and soil conditions.

Considering the principal crops in the United States, it is estimated that weeds reduce the yield of corn by 10 per cent, tame hay by 3 to 16 per cent, potatoes by 6 to 10 per cent, spring grain by 12 to 15 per cent, winter grain by 5 to 9 per cent.

Every farm should have a business office. It may consist of only a small table or desk and a simple book of accounts, but it will aid materially in keeping the farm business straight and up to date. Strictly speaking, the farmer is one of the busiest of business men and he needs a business office where all records and accounts are kept in a business-like way.

# HOME ECONOMICS

## Cakes

The ancient Greeks used cakes but they were not what we know as cakes. They were merely bits of sweetened dough baked in the form of cakes, and there was usually no leavening agent used. These were offered to certain deities as Astarte. Even earlier than this the Egyptians deemed their cakes far too sacred for anyone but their moon goddess. Later the Greeks and Romans used cakes or buns in different religious ceremonies. For a good many years later the cake was never used except in connection with some form of worship.

The angel food cake so common in our cook books is hardly recognizable as a relative of the food that was offered to the Egyptian moon goddess. But the original recipe has been gradually modified and the numerous recipes found in every cook book today are the result of this long development.

Cake may well hold an important place in the diet, but its food value varies with the different kinds of recipes used so that it cannot be assigned a definite place.

The two principal kinds of cake are, those with butter and those without. For any cake the best quality of materials should be used, tho one may economize in quantity. All measurements must be carefully made. Cake dough usually requires two tablespoons less bread flour per cup than pastry flour, but one's own judgment must be used as to just how stiff certain doughs must be made.

Sponge cakes are composed largely of eggs and they contain no butter and their lightness is due to the air incorporated and the expansion of this air when heated. The problems involved then are first, to secure the incorporation of the air, and second, to retain it until the cake is "set." After the yolks are beaten stiff the sugar must be added gradually while the beating is continued.

The flour and baking powder (well mixed) are then folded into the yolk mixture. The whites must be beaten stiff and dry before they are cut and folded in last. Bake in an unbuttered pan in a moderate oven. The angel food cake belongs to this class.

Two sponge cake recipes:

### Sponge Cake No. 1

4 eggs
1 c. flour
½ tsp. salt
¾ c. sugar
1 tbsp. lemon juice

### Sponge Cake No. 2

2 eggs
⅜ c. hot water
¼ tsp. lemon juice
¾ c. sugar
1 tsp. B. P.

Mix according to the general method of mixing sponge cakes, except that the water is added just after the sugar has been beaten with the yolks.

The lightness of butter cakes may be partly due to the air enclosed in the batter but the main leavening agent is usually baking powder which is mixed with the flour. There are many methods of combining the ingredients but one general method can be applied in most cases: Cream the butter (using a wooden spoon) and add the sugar gradually. Add the yolks, beaten well, and then the flour, baking powder and salt (well mixed) alternately with the wet ingredient. Beat the mixture thoroly and add the well beaten whites. The whites may be beaten with the yolks and both added to the sugar and shortening. Beating gives the cake a finer grain.

**Plain Cake**

¼ c. butter
½ c. sugar
1 egg
½ c. milk
1½ c. flour
2½ tsp. bkng. pwdr.

This recipe may be varied and used merely as a pattern recipe. Bake in buttered pans that are dredged with flour. In filling the pans fill the corners and sides leaving a slight depression in the center. Failing to do this often causes the cake to be hilly, altho too hot an oven is sometimes the cause.

# FARM BUREAU

### Union County Farm Bureau Claims Largest Calf Club in the United States

Winnebago county, Wisconsin, laid claim to the largest calf club in the United States with 100 members. According to last reports Union county, New Mexico, has enrolled 140 boys and girls in the 1919 Calf club. With 40 more members than the Wisconsin county that honor and distinction must leave the dairy state and come to New Mexico to Union county where 140 boys and girls scattered over the dry farming area are getting in foundation stock for the future dairy herds of that county.

### Farm Bureaus to Conduct Silo Campaigns in July

Several farm bureaus in the state are arranging to conduct silo campaigns during the month of July. The digging of pit silos will receive special consideration in the dry-farming sections in the northeastern part of the state. Excursions will be conducted in some of the irrigated valleys where concrete and other ''above ground'' types will be studied.

With the prospects so good for abundant crops in all parts of the state the farmers are planning to build silos and store away as much as possible of this year's crop for the lean years.

### Typewriters Aid Farm Business

A neatly tyepwritten letter on appropriate farm stationery will give the average person a better impression of the farmer as a business man. A typewriter is a particularly good thing to have in the farm home, because it serves as a help in educating the children. By conscientious practice the boy and girl on the farm may become experienced typists and at the same time handle the business for their father. Every farmer should keep duplicate copies of all business letters.

# BOYS' AND GIRLS' CLUBS

## When Canners "Can."

What about that canning program for the season of 1919? Have the Boys' and Girls' club members and the home economics clubs made their plans for filling every empty jar this season?

The time has already come to begin your canning if you expect to have the greatest variety of canned products to exhibit this fall. The exhibit is important but it is a lot more important for every home to can its own supply of fruits, vegetables and meats for winter use. You should see to it that no fruit or vegetable which is "canable" is allowed to go to waste. You will need this very thing before another growing season comes around.

Do you know that a large part of the world's population is still going to bed hungry every night? Then why permit food products to waste and show yourself less a patriot now than in war?

It is economical to can your own products and it is practical. Send for Extension Circular 48 on "Food Conservation in the Home" and ask for a demonstration by the Club Specialist, State College, N. M.

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## Club Leaders' Conference a Success

The first statewide club leaders' conference ever held in the state convened at State College from June second to the fifth inclusive. The following counties were represented: Bernalillo, Colfax, Curry, Eddy, San Miguel, Santa Fe, Torrance, Union and Valencia. Mr. T. J. Newbill, assistant in charge of club work north and west, represented the Washington office and was the leading spirit of the occasion.

The purpose of this conference was to unify work thruout the state and prepare the way for better junior agriculture and home build-

Roosevelt County Canning Club Team, 1918 ing thru the agency of the Farm Bureau organization. By getting the county club leaders together to hear reports on their various individual problems and to exchange ideas on the solution of these problems, the Extension Service felt that the efficiency of these club leaders would be greatly increased both now and for the future.

In the opening talk, Director Cooley made it plain to the club leaders that they are an important part of the Extension Service and showed them the wonderful opportunities which come to club leaders in working with young people.

Following the director's talk, Assistant County Agent Leader, Mr. Knorr, showed the workers how the Boys' and Girls' Club work fits right into the community program of the Farm Bureau. This idea of a community program of the Farm Bureau was kept before the conference thruout its meetings.

The afternoon of the first day's conference, as well as a good portion of the following day, was taken up with hearing the reports of the several county leaders. These reports gave the number of boys and girls now enrolled in the various club projects in all counties represented, except Colfax. The total enrollment for the other eight counties is 2949, Union county standing at the head with 604. Besides their enrollment each leader told of the one biggest thing in club work that was being done in his county. He also acquainted the conference with his greatest problem. These reports formed a basis for the work of the conference that followed.

The one outstanding feature of the conference was Mr. Newbill's splendid outline of a year's program of club work. This gave the club leaders something definite to work on—a big,broad view of a big job. It is not possible to give all the points in this program but a few outstanding ones might be mentioned with profit to the reader.

Club work is cooperative extension work with emphasis on *extension.* The work is well thought out and every profitable thought ends in action. County leaders develop local leadership—get folks to do their own jobs, but leader makes the people's program his program.

Socialization of rural communities is first of all important. Then follows organization so the communities can solve their own problems. Definitely planned club projects well worked out are a means toward the social and financial betterment of the community.

Demonstration, the big activity in all extension work, is showing folks how to do the things most needed to be done where folks and things are. The club leader demonstrates the things which fit the community and which make for profit and better living.

Achievemnt day, with its exhibits, its judging and demonstration teams, its stories of achievement told by the boys and the girls, its awards of merit, its songs, games and other recreations, is the one great event to look forward to. This is the day on which the people of the community get the right view point of real club work by seeing the activities of the club members and results of their efforts.

To summarize more briefly, we might say that club work has five "ups."

1. There is the "waking up"—getting the vision and determining what to do.

2. There is the "hitching up"—harnessing the forces and hitching them to the load—organization.

3. Then comes the "starting up"—getting things in action.

4. The fourth is the big job of "following up," to see that every force is acting in the right direction and that no laggard is lying down on the job.

5. The final "up" is the "closing up"—the achievement day with its records, its exhibits, its demonstrations and its field meet. Mr. Newbill then ends the summary with a laconic statement: "If you do not intend to follow up, you had better close up before you start up."

On Wednesday morning Mr. Hunter of the State Extension staff gave the club leaders some good pointers on helpful publicity in club work. By newsy stories and good pictures that tell their own stories much can be done toward educating the public in agricultural extension work.

To make a long story short, the remainder of the week was filled with demonstrations on gardening, poultry, crops, cooking, canning, sewing and the like. But one enjoyable feature should not be overlooked. This was a fine feed prepared by Mrs. Koger and the girls of the domestic science class of the college. The after-dinner speeches were spicy and the song-fest that followed was full of life and club spirit. In fact the whole week was just full of life and activity along lines which are practical out in the field where the boys and girls are and things are being done. Every feature of the program was planned with the club member as the one living subject in view.

Mr. Newbill is the man for the occasion. A club leader who would not get enthused when Newbill leads the game is a dead issue. Mr. Newbill's talks were indeed an inspiration and his presence a benediction. May he come often. The county leaders went back to their fields in fine spirits and with praises for the Club Conference.

W. T. Conway.

### Club Members Excel Parents

Hon. A. F. Lever, author of the Lever Act of 1914 providing for cooperative Extension work, writes to Stanley Johnson, author of "Youth Leads the Way." "I am glad to send thru you a message to the boys and girls in every state in the Union who are doing more wonderful work in agriculture than has ever been accomplished by their elders. * * * I hope sincerely that a large share of this money" (speaking of the federal appropriation) "will be devoted to the expansion of the work of the young folks, who have 'set the pace.' * * * The government never made a better investment than the money it has expended for their instruction."

### Get Your Kodaks Working

Club leaders and club members should be making plans to get some good, live pictures of individual members and club groups. Every picture should tell a story just at a glance. Have your pictures show club members doing something in their club projects that will illustrate action. Be sure to send the pictures in to the county and state office so that they may be used for giving publicity for club work.

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"There is something big and fine and inspiring about a good loser. No one ever wins all the time." Are you a good loser?

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# THE NEW MEXICO FARM COURIER

Vol. VII. | AUGUST, 1919. | No. 9

Oats and Vetch Growing on New Mexico Experiment Station Farm.

F. H. Newell
Urbana
Ill.

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# THE NEW MEXICO FARM COURIER

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# EDITORIALS

## THE FARM BUREAU.

(By President Crile.)

The organization of the farm bureaus in the various counties of the State has come forward splendidly. Our State worker, Mr. Knorr, by means of the hearty cooperation of the progressive men and women in several of the counties, has accomplished splendid results; and it now remains for the officers who have been elected and, indeed, intrusted with a great responsibility, to do what they can to maintain the organization and improve it. They must be cautious and do their full duty. When all the counties of the State have a good, active, working farm bureau, we shall then form sort of an amalgamation of them all; and the farmers and stockmen of the State will have an organization thru which their wants may be made known and thru which they can do many things, at a great saving financially. But above all it is a great source of education and inspiration, by reason of the contact which it gives thruout the county and thruout the State. The farm bureau is not an experiment; it is a recognized organization set forth by the National Department of Agriculture, adopted by the College for our State, and we wish to make it effective, as it really should be, in every part of our State.

## AGRICULTURE.

(By President Crile.)

Our College has several distinct departments, one of which is the department of agriculture. The war emphasized the great need of proper and scientific farming, and the advantages of this training having been proven during the war time, the demand will continue, stronger and stronger, for that sort of training. The opportunities in the county agent work, in the teaching of agriculture under the Smith-Hughes Act, as managers of large farms and lastly—above all—the one great advantage of one's being able to conduct his own farm with the maximum results, are all great and strong reasons why young men should engage in this study. Our College offers a course in agriculture second to none, and has the added advantage of enabling the students to study live stock and farming generally under Southwestern conditions.

If you are interested at all in taking a short or long course in agriculture, write today for our catalog and further information, which will be gladly supplied. Address: State College, N. M.

## THE CROP OUTLOOK.

(By President Crile.)

New Mexico has never been in such promising condition for remunerative crops as it is this year. On a recent trip which I made I saw wheat fields in Curry county as beautiful as I have ever seen anywhere. Grass is good everywhere, and the row crops are coming on splendidly, except in some portions where there has been too much rain. The total income from the ranches and farms of New Mexico this year will be a very agreeable and welcome surprise; and now that we have learned to live during a drouth, let us learn how to be happy during a prosperous year; but let us be cautious with what prosperity we enjoy, and remember that a home paid for is one of the choicest blessings in the world. We think too lightly of what we really mean by a home; and those who have toiled for many years, with adverse circumstances, and at last can realize on this year's crops sufficient to pay the last dollar and have a quarter or half section of land, with its buildings, will have a most sacred blessing; which is a home. Plant trees of some sort; raise some sort of flowering plant, and make the home still more lovely.

I predict that we shall have several years of good moisture, during which time we must all make the very most of our opportunities.

## WATCH THE LEAKS.

(By President Crile.)

Threshing time is at hand, and, no doubt, there will be enough wheat lost and scattered in the fields, covered over with sand and dirt, that, if the aggregate of it were gotten together it would be seen that the waste is astonishing. Successful farming is primarily stopping all the little leaks; little leaks of time; little leaks of grains; the leaks that weeds take out. The difference between two farms adjoining is often found in the fact that one has no leaks and the other has many little leaks. The little leaks finally reduce the success of the whole, and the one man says farming does not pay, and the other man says that farming is the greatest thing in the world. The fault was the little leaks.

## ATTENTION! MR. FARMER.

(By Director A. C. Cooley.)

For your information we desire to call your attention to the fact that there is a movement under way on the part of many hay dealers to buy or contract at present prices all available feed stuff with the idea of realizing a large profit on same during the coming winter. As you undoubtedly know, several of the states in the Northwest are now suffering from a severe drouth similar to the one thru which we have just passed. This fact, together with other available information, indicates that all feed stuff is going to bring a good price again this winter. Therefore, farmers should not be in too big a hurry to dispose of their forage crops when by holding them a while longer they will no doubt, receive much better prices for them. Keep in touch with the market thru your Farm Bureau and daily papers.

## ADVANTAGES OF THE SMALL COLLEGE.

The small college is not looked upon as a competitor of the larger institution, but it plays a very important part in the field of education.

Since the State institutions of the Southwest belong to this class, it would be well for those who have children to educate to consider its advantages before sending their children away to the larger, more popular eastern college. Usually the smaller institution has just as competent a faculty and a more carefully selected equipment, one that serves better for the work of instruction than that of the larger institution. Often the only difference is in quantity, the larger requiring more because of the greater number of students to be accomodated. Even with the larger equipment and special advantages, the training for the average student is less satisfactory because among the large numbers, the instructor does not become familiar with the capability and character of the individual student and is, therefore, less able to assist him. The college activities are so much greater that there is danger of their taking too much time and attention away from the real work of instruction.

Among large groups of students individuality is lost. The intimate relationship between the individual student and the faculty members is impossible and this is often worth as much or more to the student than the knowledge that comes from the instruction. For the graduate student who desires to specialize, who knows what he wants and whose habits are well fixed, the larger institution is the desirable place, but for the younger student and the routine work of the regular course the small college is better. At the institution with a thousand or more students a large percentage of them come and go without leaving a distinct impression upon faculty members or even any considerable number of their fellow students. In the small college individuality counts, character is formed and students are inspired to accomplish the greater and better things of active life In the big University the social side has a tendency to undue prominence and the natural activity of youth spends itself in unseemly frolic.

The mediocre student has a better chance to rise in the small college. One who would be a leader and make his influence felt in the small instititution of a few hundred students might be almost wholly unknown in the larger one of a few thousand. He might become prominent in the activities of the one and have no opportunity whatever in the other because of the greater number of superior merit. Among the few he has the best opportunity to take part in all that goes on and to do the actual work of demonstration instead of looking on while others do it.

To one who looks forward to any prominence in the state, and what student does not, whether thru political preferment or otherwise, his own State College offers a decided advantage in the wide acquaintance it gives with students from all portions of the state who are likely to become the future leaders. It also keeps one in touch with the affairs of the State and this familiarity with its conditions gives preference for appointment to positions in the State. Four years spent in taking a college course in some other state is apt to deprive the student of interest in his home locality and should he return after finishing, he feels like a stranger coming into a new locality to begin over.

In the matter of expenses, the advantages are strongly favorable to the State College. There is no tuition fee and absolutely no profit on the board and room and other necessary living expenses of the student. The incidental expenses and those connected with college activities such as the Athletic, Literary and Christian associations are very much smaller. There is also quite a saving in the cost of transportation. All things considered the smaller colleges particularly those of one's own State offer decided advantages over the big Universities of the East for students who desire to take one of the regular college courses.

LUTHER FOSTER.

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Don't think of your county agent as a man who sits in his office and writes letters. He spends the most of his time on the farm.

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We should especially strengthen the local farm bureaus and other organizations which support so effectively the extension forces and assist them in their activities.—Secretary Houston.

# LIVESTOCK

## PROTEIN FEEDS FOR HOGS.

Observing feeders have noticed that, quite often, the best results are not obtained by feeding rations made up according to the feeding standards. This has had a tendency to place the whole practice of balancing rations in disrepute with some of our most successful feeders. The writer distinctly remembers having heard the head of animal husbandry work on one of our larger agricultural colleges say that he had no faith in balanced rations.

It does not seem justifiable to discard the whole practice of balancing rations as a beautiful but unworkable theory because a few of our balanced rations do not give satisfactory results. Rather let us study these exceptions and perhaps we may discover some new truths in regard to feeding farm animals.

Why, for example, cannot satisfactory results be obtained by feeding growing pigs on a ration made up from corn and its products?

We have been taught that corn is deficient in protein because the addition of milk or tankage prove to be excellent protein supplements to corn but the addition of considerably more protein in the form of corn germ or wheat middlings does not produce the same result.

Corn is deficient in lime, but the addition of lime does not convert corn into an adequate diet.

The Vitamine deficiency hypothesis does not explain the difficulty since the addition of protein free milk and butterfat has little effect on the gains obtained.

Palatability and monotony of diet do not enter into our problem since pigs have been fed over longer periods on less palatable rations.

Altho wheat middlings, alfalfa and some other high protein feeds improve the corn ration, as satisfactory results are not obtained as when much less protein is added in the form of milk or tankage. We must conclude then that there are other factors than those hitherto taken into consideration in making up a ration.

Study of proteins from different sources show them to be widely different in regard to their physical properties. Some are soluble in water, some insoluble. Some are soluble in weak salt solutions, some in acids, some in alkalies, some in alcohol, etc. If proteins differ so widely in their physical properties they must differ in their chemical structure. Chemically all proteins are made up of certain nitrogenous organic bodies known as amino-acids. Chemical analysis have shown some proteins to be lacking in certain of the amino-acids, for example Zein, the principle protein of corn, contains neither lysine nor trytophane. Now a pig could no more build muscle without lysine and tryptophane than brick can be made without straw, and if we expect the pig to grow we must supply the missing amino-acids from some other proteins containing them. The addition of more corn products will not supply the deficiency since they do not materially improve the ration. This in part at least explains why milk and tankage are such satisfactory protein supplements to corn.

Another factor effecting this problem is the fact that when a bulky feed like alfalfa is fed to hogs there is a considerable lowering of nitrogen retention. For example when corn and milk are fed together practically 60 per cent of nitrogen fed is retained for muscle building, but when alfalfa is added to the combination the nitrogen retention is only approximately 40 per cent. It shows then that considerably more protein must be allowed the pigs when alfalfa or any other bulky feed composes part of the ration. There are several other factors affecting the protein minimum in rations for swine, but they will not be discussed at this time. In the light of modern knowledge we must consider that satisfactory results can not be secured unless the protein is supplied to growing animals from several sources and when bulky feeds like alfalfa are fed considerably more protein must be fed than when the ration is composed entirely of concentrates. We can be much more certain of success if the protein is supplied from several grains and for growing pigs, at least part of the protein should be of animal origin.

JOHN D. HUNGERFORD.

## LIVE STOCK OUTLOOK FOR NEW MEXICO.

### Horses.

Fortunately, the demobilization at Fort Bliss and Camp Cody has given farmers an opportunity to purchase some very serviceable cheap horses. The markets at other points show a broad demand for drafters of good quality and prices are ranging from $275 to $325. There is no demand for scrubs.

Anticipating a higher price for horses after the wreckage of war has cleared away, we may reasonably expect a very brisk movement of horses. Some of the European countries are now in the market purchasing. George S. Matthews tells us there never was a brighter prospect for the man with a good horse than today, if they are the right kind.

Regardless of the breed or sentiment, the horse must be useful as well as ornamental. If you expect to be a successful breeder sound stock must be produced with action, quality and character. Be honest with your patrons; don't take advantage of a beginner; this will react like a boomerang some day.

Shire horses do not develop as soon as other horses. Remember the old saying, "The earliest ripe soonest to rot."

The successful breeder must keep in mind that no judge or lover of a good horse wants a brute with a big meaty head and jowl, small beady eyes, a long weak back, short quarters, meaty sickle hocks, broom stick bones and a ton weight. Such animals have been presented as exhibits at show rings. Of course they never carried off many blue ribbons.

Hackney action is not required in heavy drafters. What is needed is size, conformation, smooth action and big flat bones. These are points that have made the Shire horses famous. I admit there was some good grounds for criticism about daylight and flat feet in this breed but years of careful selection have in a large measure overcome this. I think many of the shortcomings in our horses could be overcome if more attention was given to individuality. Paper never refuses ink.

### Cattle.

There is absolute need of good bulls on our ranges. Unfortunately there are too many thrashy scrubs at present eating up good feed. A prominent dealer laments that he can not get a drove of steers capable of putting on three hundred pounds on their frames in a season. Eight hundred today is the limit. A few years ago no trouble would be experienced in getting steers weighing one thousand pounds that did not look like Joseph's coat, either.

Several factors are responsible for this. Among others, the scrub bull, lack of protein and starvation. No sensible breeder can expect one hundred pound calves from starved cows. Every pound of feed judiciously given to a cow gives returns, i. e. bigger and stronger calves, fewer losses, higher percentage of calf crop.

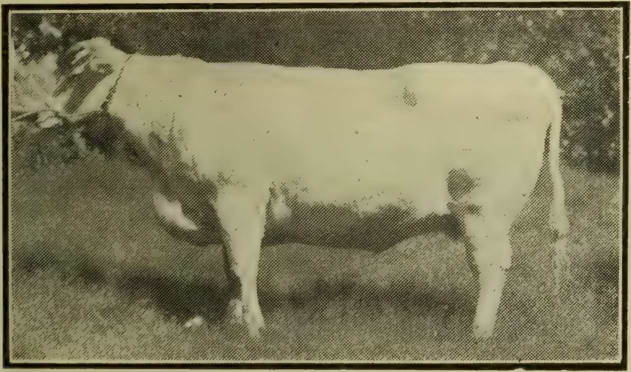
One of the most discouraging features about cattle business of today is the price. Wilson and Company on July 3 were selling beef carcasses in El Paso at thirteen cents. Still we are paying war prices for meat. In every village and hamlet of New Mexico there seems to be an understanding as to the charges. Don't blame the packers for this. It is the unscrupulous profiteer, an enemy to every community in which they reside. I do not advocate price fixing, but some form of regulation or control should be inaugurated in order to curb this parasite,

The American people today are eating less meat than during the war. The Department of Agriculture reports that the working man is being stinted. Of course he is being stinted and so is his family. And for what reason? The retailers' high prices.

Mutton is selling on the Kansas City market for from $5.50 to $9.50 but in some of the little towns along the Rio Grande, they are charging 35c for a stew. Recently at Chicago a number of live stock producers made a plea to the American people to eat more meat. We would gladly do this, but the price forbids. By all means let us have some regulation. Regulate this parasite, the profiteer to where he belongs.

### Hogs.

Hogs are in great demand at present. Some one tells us the country is jockeying with the market. This is impossible. In the first place there is no regulation, and without this you can accomplish nothing. It may be the European demands that is causing the high prices. One thing is certain, prices are bound to drop. It would not be a wise thing just now to stock up on high priced stuff in the face of such an unsettled condition. For the benefit of those anticipating the shipment of hogs into New Mexico to eat up the visible feed, if hogs are brought from the outside they should be immunized with the serum virus treatment to prevent losses from hog cholera,



**A Good Type Shorthorn Cow Recently Sold by the New Mexico Agricultural College; Weight 1745 Pounds.**

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### A GOOD TYPE SHORTHORN COW.

Dressing out 65 percent on a live weight of 1745 pounds was the final record made by the cow whose picture is shown above and which was recently sold by the New Mexico Agricultural College to the Peyton Packing Company of El Paso. Raised under New Mexico range conditions this cow was an exceptionally good individual showing an excellent beef conformation. She was purchased by the College a little over a year ago and has been used for instructional purposes during the past winter. She is reported to have been the largest cow that ever entered El Paso for slaughter. New Mexico can well afford to raise more cows of this type.

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One hundred pounds of skim milk will replace twenty-eight pounds of cereal grains as a pig feed. This. at least, is the summary of results obtained by various Experiment Stations in feeding 740 pigs to determine the value of skim milk as a supplement to cereal grains, including corn, wheat, rye and barley.

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Investigations in 1918 indicated that the manufacturers' cost of raw materials for creamery butter was 88.5 per cent of the cost of the finished product. The manufacturers' cost of raw materials for medium grade oleomargarine was 60.9 per cent.

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The pig that is left to shift for itself seldom proves a valuable meat producer. Little care, little profit, is the rule in pork production. Judgment in selection of type and wisdom exercised in choosing rations march hand in hand with profits in the pig industry while ignorance and carelessness yield a harvest of regrets.

# FRUIT AND TRUCK

## ORCHARD SOILS-"BROWN SPOTS"

Orchardists seem to be experiencing some trouble with the so called "Brown Spots" in soils. Fruit trees growing on these "salty" spots do not thrive and eventually die. The presence of these soil spots in a plantation are usually indicated by the fact that little or no annual vegetation thrives on them. The trees growing there begin to decline in vigor and produce small unmarketable fruit. The trunk and branches become blotchy with reddish brown discolorations, while the leaves begin to turn brown usually at the tip end, and to curl up from the mid rib. The general appearance of the reddish brown discoloration of the trees and foliage is a pretty fair indication of the ill effects of the brown spots in the soil. Such trees produce little or no growth but as a rule they bloom heavily producing poor quality of fruit. While the trees do not die right away once affected by these soil conditions they become a source of trouble and expense until they die.

At the College orchard where there is one of these spots the apple trees growing in it have merely been existing for about six years, occasionally one has died out during this period. Those that are living are practically worthless and unless they can be rejuvenated by the special treatment which is being tried, they will die. Another characteristic feature of the presence of these soil spots is that most always the soil looks brown and it often appears as tho it were wet or greasy like. If there is no crust the surface feels mealy or powdery, and it sometimes puffs up. These brown spots look and act very much like the nitre soil spots reported from Colorado.

Some treatment experiments are now being started in the College orchard, mostly in trying to wash out the accumulated salts which seem to be near the surface and noting the effect on the trees of the concentrated salt solution as it passes down thru the root feeding zone. Cover crops are also being tried, to eliminate or neutralize if possible the salt condition of these spots.

Very few species of plants seem to thrive in these spots, particularly of the warm season kind. Some of the cool season plants seem to be more resistant to the salts, and when planted in the fall or early spring they make, in most cases, a fair growth. In the College orchard brown spots spinach and peas when planted in the fall have produced a good stand and have made a fairly

Plowing Under a Field Pea Cover Crop.

good growth in the summer. These legume crops seem to be very good and are the ones being used in the treatment experiments of these soil spots. Care should be used in the selection of orchard soils that trees are not planted where these brown spots appear, because fruit trees, particularly apples, will not thrive on them. FABIAN GARCIA.

# FIELD CROPS

### VETCH.

Vetch is a plant that has as yet gained but little prominence in this State; but the results thus far obtained at the New Mexico Agricultural Experiment Station have been uniformly favorable to the crop.

A small field was seeded to winter vetch on December 5, 1917, and was irrigated to produce germination, but received no more water until the following March. The vetch was slow in germinating and did not make much growth until the warm days in February, but very little of it winter killed and the indications were that all of it would have come thru the winter uninjured had there been water available for irrigation during winter. The vetch grew very luxuriantly but was not harvested for hay but was plowed under early in June as a green manure crop. It doubtless would have produced a heavy tonnage of hay, however.

On October 10, 1918, about one acre of medium heavy land was seeded to oats and winter vetch at the rate of 30 pounds of oats and 30 pounds of vetch per acre. This germinated nicely and grew reasonably well thru out the winter and apparently would have afforded excellent winter pasture. The crop was harvested for hay on June 9, 1919, and yielded at the rate of 4.43 tons of air dry hay per acre. The hay was of good quality, but would probably have been better had the vetch been planted somewhat thicker. On ordinary soil the above rate per acre will in all probability be about right, but in this particular instance the piece of land on which the oats and vetch were planted was very rich, having been used the two years previous for poultry yards, thus receiving the benefit of the hen manure. The oats stooled quite heavily and grew very rank, and as a result choked out some of the vetch. A picture of this field of oats and vetch will be found on the front page of this issue of the Courier.

There are many types and varieties of so-called "vetch," but only two kinds, viz; the common vetch and the hairy vetch are grown to any extent in the United States. Common vetch **(Vicia sativa)** is strictly an annual with tall slender stems that grow three to five feet in length; the leaves are pinnate; flowers violet-purple; the seed are borne in a brown seed pod which usually contains four or five gray or marble colored seeds.

Hairy vetch **(Vicia villosa)** also known as winter vetch is a winter annual. The stems are slender, sometimes growing to a length of twelve feet, but the stems are quite weak and, therefore, the mass of plants seldom exceed four feet in height. The herbage is hairy; leaves narrow; flowers blue violet; pods pale colored each containing from two to eight seeds.

Vetch requires a cool temperate climate, but will winter kill badly when mercury drops to the zero point. It prefers a well drained soil that is fairly rich, but it will grow on most all types of soil, even on those that are quite alkaline.

Vetch may be sown alone or with some of the small grains as a supporting crop. Oats seem to be the favorite grain to use in combination with this crop. Where it is intended for hay it is rarely ever sown except with some grain crop, but when intended for a green manure crop it is nearly always sown alone. When sown alone the practice is to sow 40 to 60 pounds per acre. If a mixture is sown it will vary from 30 pounds of vetch and 20 pounds of oats to double these amounts.

Vetch may be fed either as hay, pasturage or silage, but the greater part of the crop is fed as hay. In Oregon dairymen utilize vetch as a pasture during the winter, spring and early summer. In some sections it is used as a pasture crop for hogs and sheep. It is sometimes pastured for a time while young and then permitted to grow a crop of hay.

RUPERT L. STEWART.

## CORN-EAR WORM OR TOMATO FRUIT-WORM.

The corn-ear worm is the only insect damaging the ears of field corn, and is the worst pest we have of sweet corn.

The adult moth varies in color from olive brown to yellowish-white, having black markings as a rule on its wings. The larvae, too, varies in color from light green, thru pink and brown to black, therefore one gets the impression that there are several different species present.

Corn is a favorite food plant. The moths deposit eggs upon the silks and hatch in from 3 to 5 days. It has been estimated that a single female will lay from 500 to 3000 eggs. Spring moths usually appear about the middle of May, here in the southern part of our state where most damage is done. Upon hatching the young worms make their way at once down into the tip of the ear and begin to eat the kernel. When plants are two or three feet high the ears are often severely attacked and the growing tips destroyed, thus checking growth.

The damage done to field and sweet corn in the United States has been estimated at about $50,000,000 a year.

The larvae when full grown is about 1½ inches long and when ready to transform crawls to the ground and burrows from 2 to 5 inches into the soil. Here it makes a cell with a tunnel running near to the surface of the ground. This makes it possible for the moth, which appears later, to break its way thru. The worm returns to the bottom of the cell and pupates. It remains in this resting condition for about two weeks, or over winter, if it happens to be the last brood. In New Mexico, it takes about one month from laying of egg to appearance of moth. Hence there will be three generations and a possible fourth, in this southwestern country. The second generation of moths will appear about July 1, the third generation early in August.

### Control.

The easiest and most satisfactory method of control is fall and winter plowing and harrowing of the land used for corn and tomatoes. This breaks up the pupal cells and exposes and kills many pupae, while rodents and birds do the rest.

Rotate the crops each year, being careful not to follow corn with tomato or cotton, and be careful not to put the new field too close to the old one, so that the emerging moth will not have food nearby to feed on.

Trap crops as a preventative method are good. Plant corn in among tomatoes, as a trap crop, so the ears will be in full silk when the moths are laying, July 1 to August 1. Do not allow the corn to stand after each brood but cut and feed.

For the protection of corn ears the application of a 50 per cent mixture of flowers of sulphur and powdered arsenate of lead is recommended. Sift a teaspoonful of the mixture onto the silk of each ear. This method is all right for a small patch of corn (sweet) but is of course not practicable in large fields. In dusting tomatoes for this worm, use arsenate of lead and powdered slacked lime, one part to four. About 6 to 8 pounds of lead arsenate per acre are sufficient. Do this when the moths are laying eggs, about July 1 to August 1, in the southern part of the state.

Always use the preventative methods in control of the corn-ear worm, never depend on remedies only as a secondary means when the preventative misses.

J. G. GRIFFITH.

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It is suggested that the success or failure of a tractor depends on a number of conditions; among them are a competent operator, sufficient work to warrant the use of such a machine and the timeliness in doing the work made possible, the farm layout, grades and soil conditions.

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Considering the principal crops in the United States, it is estimated that weeds reduce the yield of corn by 10 per cent; tame hay by 3 to 16 per cent; potatoes by 6 to 10 per cent; spring grain by 12 to 15 per cent; winter grain by 5 to 9 per cent.

# HOME ECONOMICS

## JELLY MAKING.

In no part of preserving does the housekeeper feel less sure of the results than in jelly making. She cannot explain why her jelly did not harden or what caused her jelly to candy when she used the same rule as when she made her perfect jelly.

It is an easy matter to say that there is something in the condition of the fruit or that the fruit juice and sugar were cooked too short or too long a time.

These explanations are often true, but they do not help the inquirer, since at other times just that proportion of sugar and time of cooking have made perfect jelly.

An ideal fruit jelly should be transparent, of good color, and quiver, not flow, when removed from the mold. A product easily cut with a spoon, and yet so firm that it retains its shape. It should neither be sirupy, tough or gummy. This is a good fruit jelly.

Fruit for jelly is best gathered a little unripe. The juice from certain fruits such as grapes, apples, crabapples, oranges, currants, is better suited for making a natural fruit jelly than juices from other fruits. The juice from these fruits contain the properties necessary for jelly making; pectin and acid.

Pectin, the fundamental jelly making substance, does not exist in all fruits in sufficient amount to make jelly without the addition of pectin from some other source. Peaches, strawberries and cherries are examples of fruits which contain acid but are lacking in pectin. Pear and quince contain pectin but are deficient in acid. If a missing property be added to each of these fruits, jelly with the color and flavor of the fruit selected can be made. Apple juice may be made a basis for other fruit jellies.

Wash such fruits as berries, grapes and currants in running water and add 1 cup of water for each pound of fruit. For apples, quince, quavas and such hard fruits, wash, slice and add 3 cups of water to each pound of fruit. The fruit should be cooked until tender. The fruit juice will flow more freely when heated than when cold, and the cooking develops the pectin. As soon as the fruit is tender it should be allowed to drip without pressure thru a jelly bag or double cheese cloth. Over cooking of the fruit is apt to result in a cloudy jelly. After cooling the juice to room temperature test it to determine the amount of pectin present.

This test gives some idea of the proper proportion of sugar to juice. Add 1 teaspoonful 95 per cent grain alcohol to an equal amount of fruit juice and shake gently. The effect of the alcohol is to bring together the pectin in a jelly-like mass. If a large quantity of pectin is present it will appear in one mass or clot when poured from the glass. This indicates that equal quantities of sugar or juice may be used. If the pectin does not slip from the glass in a mass less sugar will be required. A fair proportion is 3-4 cup of sugar to 1 cup of juice. If the pectin is thin and much separated 1-2 cup of sugar for each cup of juice will be sufficient. The most common cause of failure in jelly making is an over-proportion of sugar to juice—that is, to the pectin in the juice.

Another test that has been used successfully with apple, crabapple, plum, quince and cranberry juice, is 1 tsp. of fruit juice, 1-2 tsp. sugar and 1-4 tsp. Epsom Salts. Stir until all is dissolved, then let stand five minutes. If the mixture sets into jelly within this time, the juice is a good jellying juice and may be sweetened and boiled at once, if this test fails, the juice needs to be concentrated by boiling before sweetening.

Each house keeper doubtless has her own way of testing jelly, but the one described below and used by many has given the best results.

Dip a spoon in the boiling mass. Remove and cool by moving it back and forth for a few seconds, then allow the jelly to drop from it. When the jellying point is reached, it will break from the spoon in flakes or sheets.

This is a quick test, and much better than the time honored one of taking out a portion of the hot jelly and allowing it to cool to see it it "jells;" for while this cooling process is going on, unfortunately things may be happening in the sauce pan. Time is too precious at this point to wait for cooling of samples. Remove from the fire immediately and skim. Skimming at this point saves waste. After skimming the jelly pour at once into hot glasses and set aside to cool. Cool as rapidly as possible, avoiding dust which will cause jelly to mold. When cold cover with hot paraffin. Jelly should be stored in a cool dark dry place.

### Pectin.

Perhaps it may be interesting to explain that pectin, the fundamental jelly making substance of fruit juices, the gelatinizing material that makes these juices "jell," is a substance that is apparently akin to starch chemically; it has no relationship whatever to gelatin. Like starch, it is made up of the elements carbon, hydrogen and oxygen; while gelatin, in addition to these elements, contains nitrogen. Moreover, pectin is of vegetable origin, while gelatin is of animal origin.

### Sugar.

A question concerning the relative merits of beet sugar and cane sugar in jelly making has occasionally been asked. Our experiments showed that when the two sugars were equally pure, there was no difference in the texture, taste or appearance of jellies made therefrom.

SARAH VAN VLECK.

# FARM BUREAU

## FARM BUREAU MEMBERSHIP.

### Hints for 1920 Campaign.

On May 20, 1919, there were 2850 farm bureau members in fourteen counties of New Mexico. In 1920 the membership in these same counties ought to increase to somewhere between 4820 and 5603. In these fourteen counties, based on a conservatively low estimate, there are approximately 14,425 farmers and stockmen. This means that about 20 per cent are farm bureau members. This varies within the fourteen counties from 4 to 33 per cent.

The following table gives the farm bureau memberships in each of the 14 counties in New Mexico on May 20, 1919, together with an estimate of the number of farmers and stockmen. The table also shows the membership necessary in each county if we are to do our part in bringing up the membership to a million on an average of 33 1-3 per cent.

| County | Membership May 20, 1919 | Estimated No. farmers & stockmen in county | Per cent Members in 1919 | Quota for 1920 based on 33 1-3 basis |
|---|---|---|---|---|
| Chaves | 52 | 1200 | 4 | 400 (450)* |
| Colfax | 170 | 1300 | 13 | 433 (500) |
| Curry | 230 | 1400 | 16 | 466 (600) |
| DeBaca | 75 | 360 | 21 | 120 |
| Dona Ana | 502 | 1500 | 33 | 500 (600) |
| Eddy | 150 | 800 | 19 | 267 (350) |
| Luna | 60 | 250 | 25 | 84 (100) |
| Otero | 75 | 600 | 12.5 | 200 |
| Quay | 85 | 800 | 10.5 | 267 |
| Roosevelt | 68 | 550 | 12.4 | 183 |
| San Juan | 250 | 800 | 31 | 267 (400) |
| San Miguel | 297 | 1500 | 20 | 500 |
| Sierra | 36 | 400 | . 9 | 133 |
| Union | 800 | 3000 | 26.6 | 1000 (1200) |
| Total 14 Counties | 2850 | 14460 | 20 | 4830 (5603) |

*Numbers in parenthesis () estimated membership in excess of 33 1 3 per cent based on activities and ages of farm bureaus. 33 1-3 per cent would increase membership in fourteen counties from 2850 to 4820. This number would go to 5603 if numbers in parenthesis are used.

A memorandum to county agents under date of May 22, 1919, from W. A. Lloyd, has as its caption "Let's

Make it a Million." This memorandum gives 409,841 farm bureau members for the 33 northern and western states on April 1, 1919. It further states that there were 3,262,955 farmers in the northern and western states according to the 1910 census. This makes about 12.5 per cent that are farm bureau members in 1919.

In order that the farm bureau could be spoken of as truly representative of the agricultural interests of the nation, there should be at least one third, or 33 1-3 per cent of the farms represented. Based on estimated population, the 14 counties in New Mexico have 20 per cent membership for 1919 as compared with 12.5 per cent for all of the northern and western states.

In this connection a few figures on growth of farm bureau membership in New York state might be of interest. On April 1, 1919, there were 62,554 paid members in New York representing 30 per cent of the farms in the 55 counties having farm bureaus. The total membership was increased by 18,951 members since July 1, 1918, or from 20 to 30 per cent. Credit for this noteworthy growth, state farm bureau leaders say, goes to local community committeemen, particularly the chairman and the leaders. With these leaders now rests the successful carrying on of definite and healthful community programs. The aim of the association leaders is to have 50 per cent of New York farms represented in farm bureaus in 1920.

It is hoped that each county farm bureau will cooperate with this office in developing plans for carrying on a membership campaign during the months of November and December and at the same time develop a program for 1920. No doubt all those connected with the farm bureau will appreciate the advisability of getting this work completed by the first of the year. This will allow time to develop details in connection with the program of work before the members become engrossed in their farming and ranch operations.

The executive committee and the community committees will be expected to put the campaign across. The details of the campaign will have to be worked out far in advance with the executive and community committees.

J. W. KNORR.

## SWEET POTATO GROWERS OF ROOSEVELT COUNTY ORGANIZE

The Portales Valley Sweet Potato Growers association was launched in Portales on July 9, when practically all of the sweet potato growers met with a committee of the farm bureau.

Plans for organization were submitted by C. A. McNabb, market specialist of the Extension Service, and J. B. Petersen, county agent of Roosevelt county. Constitution and by-laws and articles of incorporation were perfected. Officers and board of directors were chosen. The members of this organization are growing in the aggregate 400 acres and will have over 100 car loads to dispose of when the crop is harvested.

The outstanding feature of the organization is the very rigid regulations regarding the grading of potatoes contained in the contract signed by each member. The promoters of this organization have made a great success in the sweet potato industry in the Portales valley for a number of years. Their sweet potatoes have gained an enviable reputation in the markets of the southwest. This reputation has been established thru the untiring efforts of these few men in the matter of grading and placing upon the market a choice product. In order to preserve the reputation thus established these men were of one accord that all growers who were to market their potatoes thru the association should bind themselves to uphold the quality of the Portales valley product.

The incorporators and board of directors of this association are E. N. Wheeler, Geo. E. Johnston, Carl Mueller, F. W. Show and J. M. Bradley, all of Portales. G. L. Reese, of Portales, was designated statutory agent.

## Chaves County Farm Bureau Has Float in Parade.

One of the most attractive floats in over fifty entries in the big parade in Roswell on July 10 was prepared by the Chaves County Farm Bureau. The parade was witnessed by thousands of people from all over southeastern New Mexico who assembled at Roswell to participate in the great gala day held in honor of the homecoming of Battery A, and soldiers and sailors of all branches of the service.

The float was prepared in a very

unique manner. A sled supporting a large arch festooned with red, white and blue bunting and flags and bordered with a variety of farm crops was drawn by a farm tractor. On the arch were printed signs such as: "Better Crops, Better Live Stock, More Dairying, Better Homes," etc., which were symbolical of the purposes of the farm bureau. A placard on the tractor was worded—"This Tractor Pulls for the Farm Bureau."

The success of this venture as gathered from comments made by those who witnessed the parade is indicative of a growing sentiment in favor of the farm bureau movement in the southeastern portion of the state.

### COMMUNITY REST HOUSE SERVES COUNTRY WOMEN IN NEW MEXICO

A few energetic women decided last summer that Roswell, N. Mex., needed a central meeting place and a room where women and children might rest. A large number of country women made Roswell their shopping center, and there was no place where they might brush off the dust and straighten their hats when they arrived in town, nor rest when they wearied of shopping. How to meet such a need became the concern of the home-demonstration agent of the United States Department of Agriculture and the State Agricultural College.

Search located a six-room cottage almost opposite a leading hotel. The building was in wretched condition but the location was good. The rent was $25 a month and there were no furnishings.

The woman's club of the town gave $85 for initial expenses and its members also donated much of the furniture. The city council voted $12.50 for upkeep and a canvass of business men resulted in a large number agreeing to pay $1 a month toward the care of the place. The owner of the house, as his gift, had the rooms papered, painted, and cleaned. New gifts of furnishings are still arriving. The stove, donated for the office, had been used in the city jail. Curtains of cretonne and scrim, with plenty of cushions, add a homelike appearance.

The matron, with her mother, uses the rear room for housekeeping and a portion of a large room, known as the children's play room, is curtained off for their bed. One of the duties of the matron is to care for all children whose parents desire to leave them there while shopping. The building is used as a meeting place, rest room, and lunch room by a number of clubs, rural people, and working girls. A committee of nine, known as the community house board of control, meets monthly and transacts business..—Weekly News Letter.

## CLUB WORK

### STATE CLUB WORKERS IN THE FIELD.

After the State conference of county club leaders, they went home to plan similar conferences with their district and local leaders. The state workers were called upon to assist in these conferences.

Mrs. Koger assisted Mr. Trujillo in Valencia county and Mr. Neilson in San Miguel county. At Las Vegas the work was not only with present leaders and club members but with a class taking a course in club work in the Normal University. This course has been planned and is being taught by Professor Neilson of the Normal and club leader for the county.

Mr. Nielson reports that a regular program of demonstration work was carried out during the week of Mrs. Koger's visit. The main features were cooking, sewing, garden and canning demonstrations with talks to the Normal club class on club work and its relationships to other phases of educational work. The program was pronounced a success.

State Leader Foster and Club Specialist Conway were called to Colfax county to help County Leader Mr. Leaming, with club leaders' conference. Mr. Leaming succeeded Mr. Foster in this field as county club leader when the latter was called to the state leadership. A two days program was successfully carried out. Local and district leaders seem to get a clearer vision of what club work really is and to realize more fully the bigness of their jobs. A local leaders' conference is a very helpful thing for unifying the club work in a county.

After the conference Mr. Foster made field trips to Union, Curry, Chaves and Eddy counties to acquaint himself with the local conditions and to render assistance to the county leaders for strengthening the work. Mr. Conway visited Santa Fe county and accompanied the county leader and county agent on personal visits to pig club members in the southern part of the county.

July continues to be busier than June for the state club workers.

## CLUB CLIPPINGS

The State Club Leader has just returned from a trip over the northern and eastern part of the state and reports very excellent work being done in all of the counties.

In Colfax county, County Leader Leaming has an enrollment of about 750 members and expects to lead the state again this year in the percentage of members completing their work.

Mr. H. H. Errett in Union county claims to have the largest Dairy Calf Club in the United States. Mr. Errett has shipped into the county this spring for the club boys' and girls' a few over 83 calves. This is a record for the other counties to beat. There has also been introduced into the county 38 registered pigs.

Curry county boys and girls made a big showing at the county farm bureau picnic held at Ranchville, July 4th. The girls were all dressed in their club aprons and caps and the boys were uniformly clad in khaki overalls and straw hats. Their part in the program consisted of singing numerous club songs and making the speakers and visitors feel welcome. Mrs. Steed is to be congratulated upon the enthusiasm among her club boys and girls.

Chaves county is following in the footsteps of Union in the introduction of dairy stock. A good start was made this spring by shipping in 15 high grade Holstein calves for the club members.

Work is progressing nicely with Mrs. Maude Wyman-Jenkens over in Eddy County. Some of the best Pig Club work in the state is being conducted here and a great deal of enthusiasm is being shown in the Sow and Litter class.

The boys and girls of Lincoln county are not many in number but they are all interested and working hard to be the best in quality in the state. Mr. Sterling has the boys and girls all with him and we look for a good showing this fall.

There are 40 boys and girls working hard in Otero county and Mr. Beaty expects to have a good exhibit at the county fair this fall.

How about that club picnic this next month? This is the best time of the year to have one and the only thing that is necessary is a good live number of boys and girls. A shady spot with plenty of water makes an ideal outing place. Then too, don't forget the eats. Boys and girls like to eat and if they have plenty, the picnic is a success.

## FOOD FOR THOUGHT

A club song or yell is worth much to a club. Songs and cheers increase interest and loyalty to the club.

Bring your record sheets to the next club meeting.

Start plans early for your club picnics.

100 per cent strong is the way the Quay County Club Leader writes. Is this your club motto?

Invest your profits in War Savings Stamps.

## BE THRIFTY

Let Uncle Sam take care of your pennies, 25 of them buy a Thrift Stamp and 16 Thrift Stamps converted into a War Savings Stamp begin earning compound interest at once. Uncle Sam offers not only 4 per cent interest compounded quarterly but the government as security.

The state club leaders believe that practically all of the boys and girls in the various clubs will decide that it is well worth while to buy Thrift and War Savings Stamps. It is a sound investment for those pennies and nickles and dimes. How about it?

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# THE NEW MEXICO FARM COURIER

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Cereal Breeding Plots at the New Mexico Agricultural Experiment Station.

Published Monthly by the Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M., and United States Department of Agriculture, Cooperating.

# THE NEW MEXICO FARM COURIER

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AUSTIN D. CRILE, President of College.
FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY, Director of Extension.

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L. H. Hauter, Extension Editor.

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Elizabeth Koger, Assistant Leader.

**County Home Demonstration Work.**

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Lucille Woodard, Chaves Co., Roswell.
------------------------------------------ Colfax Co., Raton.
Sarah Van Vleck, Doña Ana Co., Las Cruces
Edith M. Hurley, Union Co., Clayton.

# EDITORIALS

## USE MORE DAIRY PRODUCTS

(By Director A. C. Cooley)

Milk always has been the most valuable food known. The health and strength of the human race depends largely upon it. Milk products should form a large part of every persons diet. Our efficiency as a nation would be greatly increased and our health greatly improved if our meat ration were cut in two and our consumption of dairy products doubled. It is a well established fact that growing children having little or no milk in their diet, lack vigor, develop very slowly and are much more susceptible to diseases.

The need of more milk in the average home in New Mexico is very apparent. As one comes in contact with the home as he travels about over the state, he is at once impressed with the lack of dairy products in the family diet, the lack of which is handicapping both the health and the efficiency of our future citizens.

Dr. Sherman of Columbia University after making many studies and surveys, states that the percentage cost of the average American's diet is as follows:

| | |
|---|---|
| Meat and fish | 35% |
| Milk and its products | 20 |
| Bread and cereals | 15 |
| Vegetables and fruit | 13 |
| Eggs | 6 |
| Sugar | 5 |
| Miscellaneous | 6 |

He further shows that far greater efficiency would result and it would be more economical if expenditures were divided approximately as follows:

| | |
|---|---|
| Meat and fish | 12% |
| Milk and its products | 44 |
| Bread and cereals | 13 |
| Vegetables and fruit | 17 |
| Eggs | 6 |
| Sugar | 3 |
| Miscellaneous | 5 |

Dr. McCollum has conducted a great many experiments showing the use of dairy products in the human dietry, especially in connection with the growing child. The result of these experiments show, where little or no dairy products are used, that a child not only lacks vigor and develops slowly, but is very apt to develop sore eyes, rickets and other diseases.

The one big industry that needs more attention in our country and especially in New Mexico, is the dairy industry, and the particular phase of the dairy industry which New Mexico is well adapted to develop is the milk goat industry. Many of our small farmers who did not feel that they can afford to keep a cow, are in position to keep a goat and should make every possible effort to secure one. There are a large number of native goats in New Mexico producing from 1½ to 3 quarts of milk per day and by proper care and breeding it would be only a short time until our native stock could be greatly improved and their milk flow doubled.

The extension service of your Agricultural College is very much interested in aiding in every possible way the development of this very important industry, and will be very glad to be of any service it can in helping to locate stock or in giving information on the improvement of the stock you already have.

## DIRECTOR COOLEY RESIGNS

Director A. C. Cooley for the past five years head of the Extension Service of this state, recently tendered his resignation in order that he might accept the position as Agriculturist in Charge of the Office, Demonstration on Reclamation Projects with headquarters at Salt Lake City. Mr. Cooley asks that his resignation take effect September 1.

Mr. Cooley came to New Mexico as its first and only Extension worker, in 1914 and since that time has built up an organization consisting of approximately 75 people. With our entrance into the world war two years ago, the Extension work received a great stimulus and during the war most of its energy was devoted to emergency work in connection with the increasing food production. The work has again been placed on a peace basis, however, and while it was necessary to drop several of the Extension workers when the emergency funds were eliminated, the force in the main has been left intact.

Three laws have been passed by the State Legislature, largely thru the influence of Mr. Cooley, which will mean a great deal to the future development of the Extension work and agriculture of New Mexico. The first of these was the law accepting the Federal Smith-Lever Act, this being the law that really placed the extension work on a firm basis. The second law was the County Extension Law, which authorized county commissioners to make special levies and have the state duplicate the amount up to $2000.00. The third law recognizes the county farm and live stock bureaus as public institutions and authorizes them to incorporate and also authorizes county commissioners to appropriate money for their support. These laws are far-reaching in their effect and it would be difficult to place an estimate on the value they will have in the future development of the state.

Mr. Cooley is leaving the state with 27 out of 28 counties organized to do county agent work, 5 counties to do home demonstration work and arrangements are being made to place at least 7 of the county club leaders on a permanent yearly basis. Fourteen counties have farm bureaus actively at work and these have a total membership of nearly 3,000 of the most progressive farmers in the state. Nearly 4,000 boys and girls are engaged in farm and home club work. Leaving such an organization behind him, Mr. Cooley can leave the state feeling that the work which has been so well started will continue to be carried on in a most efficient way.

Mr. Cooley has been called into a bigger field largely because of the efficient manner in which he built up an organization to carry on the Extension work in this state. His resignation is not only regretted by the College officials, but by the people thruout the state in general. Among those who regret to see him go most, are those who have been closest associated with him in the work. All join, however, in wishing the greatest success in new and bigger field.

His successor has not been appointed.

# LIVESTOCK

## CORN SILAGE VS. BEET PULP FOR DAIRY COWS.

A few years ago before feeds had gone up to the present prices and before the silo had come into general use in the southwest, dried beet pulp was extensively used by dairymen and probably is yet to some extent. At that time an experiment was conducted at this institution to determine the relative feeding values of beet pulp and corn silage as supplementary to a ration of alfalfa and grain for dairy cows. In order to make the proper comparisons of the two feeds, ten cows were selected and divided into two equal lots of five each, taking into account their weights, the quantity of milk produced and the length of the preceding lactation period. The experiment was run thru four thirty-day periods, the lots being reversed onto the opposite ration at the close of each period, that is, lot 1 had dried beet pulp during the first and third periods and corn silage during the second and fourth, while lot 2 had corn silage during the first and third periods and dried beet pulp during the other two.

At that time beet pulp and the grains were secured at $30.00 per ton, alfalfa hay at $10.00, and it was estimated that corn silage cost $3.50 per ton placed in the silo. The grain mixture used was composed of three parts ground wheat, two parts wheat bran, and one part cotton seed meal, and it was fed at the rate of one pound daily for each five pounds of milk produced. The cows received eight pounds of beet pulp per head in addition to the grain and as much good quality alfalfa hay as they would eat up clean.

When silage took the place of beet pulp an allowance of thirty pounds per day was given. Eight pounds of beet pulp contains a little more dried matter than thirty pounds of corn silage, but in that respect the two rations may be considered as practically the same. Sufficient time was given between the thirty-day periods for the cows to adapt themselves to the change in feed.

The summary of this experiment shows that both the quantity and the cost of the milk were increased by feeding beet pulp to replace corn silage. Taking an average of both lots, the quantity of milk during the four periods was increased 1095 pounds by feeding beet pulp, and the total cost of the feeds was $42.04 greater for the pulp ration than for the corn silage. The average increased milk production was 10.65% in favor of beet pulp but the cost of milk was increased 33.3 cents per hundredweight. The butter fat was also favorable to the beet pulp, being 52.6 pounds in excess of that produced by the corn silage, but the butter fat produced during the whole experiment cost 5.6 cents more per pound for the beet pulp ration than for the corn silage.

Obviously the cost per pound of both the milk and butter fat produced would be increased by feeding the beet pulp to replace corn silage under the conditions that prevailed during the experiment. In feeding value one pound of beet pulp was found to replace 3.64 pounds of corn silage.

Basing conclusions on the results of this experiment it would prove more economical for the average dairy farmer of New Mexico to feed corn silage to his dairy herd than attempt to replace the succulent portion of the ration by dried beet pulp. The weights of the cows showed very slight variation in the two lots during the four periods. The difference was not sufficient to show any material advantage of one ration over the other in regard to a gain or a loss in weight.

The fact should not be overlooked that excellent silage crops are being produced in many of the leading agricultural sections of this state, and considering silage worth from $3.50 to $5.00 per ton in the silo, it should be more economical as a supplement in the dairy ration than beet pulp at the average price of $30.00 per ton. Farmers located in close proximity to beet sugar factories will, of course, be in position to obtain high-class fresh beet pulp at a very reasonable cost, and can often make profitable use of it.

LUTHER FOSTER.

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## THE DAIRY COW AND SOIL FERTILITY.

Usually little attention is paid to maintaining soil fertility in a new country until the soil has been sufficiently depleted to cause a marked decrease in the crop yield. Sooner or later attention must be given to this important matter, especially where land is farmed intensively as in the irrigated section of New Mexico.

It is universally known that the use of farm manure is one of the best means of keeping up fertility and this makes it possible for the dairy cow to be an important factor in solving that problem. It has been determined that a dairy cow weighing approximately 1000 pounds will void about 12 tons of solid and liquid manure in one year. This is a larger yield of manure with a greater total fertility value than would be secured from any other animal.

Of course it is difficult to place a definite money value on the manure produced per cow because it will vary with the kinds of feeds the cow is receiving, the care given the manure and the fertility of the land. When such a value has been fixed it usually has been done by giving the price that would have to be paid for the nitrogen, potash and phosphoric acid contained in the manure if bought in a commercial fertilizer and at the present time this would make a very high price for the manure. In normal times with fertilizer constituents at their average price it is a conservative estimate to say that the manure from a 1000 pound cow would contain at least $20.00 worth of fertilizing elements, provided the manure is well cared for. If all the manure both solid and liquid from such cow are conserved, its value would be about $30.00 based on the normal times price of fertilizing constituents.

Field experiments of the Minnesota and Ohio Experiment stations indicate the actual value to be from $2.50 to $3.50 per ton, depending on the fertility of the soil. This indicates a higher value than either of the above, provided all the manure is conserved.

When concentrates are bought for feeding the dairy cow she is not only helping to conserve the fertility already on the farm but is the cause of more being brought in, since the concentrates ordinarily fed to dairy cows are rich in fertilizing elements. At least 80% of the fertilizing constituents consumed by a cow in her feed are returned in the manure.

Another factor worthy of consideration is the fact that dairy products take away from the farm a very small amount of the fertilizing elements as compared with grain, hay and other farm products. One ton of wheat takes away from the farm over 3.5 times as much fertility as a ton of milk and nearly fifteen times as much as a ton of butter.

The efficiency of the dairy cow as a conserver of soil fertility is one of the reasons for her presence on the Island of Jersey where land rents at from $50.00 to $60.00 per acre and in Holland where land is worth from $1000 to $2000 per acre. In these countries many flowers and large quantities of vegetables are raised for shipment to England and other countries. This intensive farming requires that soil fertility be carefully maintained and the dairy cow helps to do this as well as supplying milk, butter and cheese.

O. C. CUNNINGHAM.

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Erratum: Due to an error, credit was not given to Dr. E. P. Johnson for the article "Livestock Outlook for New Mexico," which appeared in the July Courier, as it should have been.

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## THE FIRST NEW MEXICO EGG LAYING CONTEST

### Conducted by the Poultry Department of the New Mexico Agricultural College.

In making the announcement of the inauguration of an Annual Egg Laying Contest to be conducted by the New Mexico Agricultural College, a word of purpose and scope is in all respects appropriate. Egg Laying contests thruout the country have been popular for some years. At this time when more efficient production and better selection and breeding is essential for the best success, the egg laying contest is becoming a necessary institution to the poultrymen of the country. Not as a matter of winning by having the best producing hen or pen, but rather as a matter of securing an official record of the performance of certain hens. In other words, the registry of fowls is becoming a desirable if not a necessary procedure. Record of performance has been looked upon as a guarantee and standard by which to judge the value of all other branches of live stock. Record of performance is the sound way to judge the value of eggs for incubation and breeding stock in the poultry field. Not only is the record of performance of the hens desirable and necessary, but the performance of the males as breeding sires is also essential. Under the conditions which the First New Mexico Egg Laying Contest is made possible it will not be able to conduct the breeding tests necessary to register male birds. With a fair beginning and the necessity of this work so apparent, that part of the program will be filled in due time.

### Rules for the Contest.

1. This contest is open to the world. On account of the limited space for this contest, New Mexico breeders will be given preference, but should there be available room after their entries are all in, the outside entries will be received in the order applications are received. All entries must be in by October 10, 1919.

2. The First Contest will start November 1, 1919; and continue twelve months.

3. The First Contest will consist of twenty pens of five birds each. There will be ten pens of the heavy weight breeds and ten pens of the light weight breeds. Each entry shall send one additional pullet which at the time of shipping will be designated as alternate. This pullet to be used only in case of necessity from any cause to replace a bird of the original pen. All pullets entering this contest must be of 1919 spring hatch.

4. A fee of $5.00 shall accompany each entry. This fee is necessary to help defray expenses of the Contest. Entries which cannot be accepted will have fee refunded.

5. All birds must be shipped express prepaid to the First New Mexico Egg Laying Contest, New Mexico Experiment Station, Mesilla Park, New Mexico. All shipments should be made so birds will arrive not later than October 20, 1919.

6. Trapnest records will be maintained for each individual hen. Monthly reports will be made to the owners and newspapers of the State and Poultry Journals of the South and West.

7. All birds will be scored according to the official American Poultry Association score card during the contest. A copy of the score card will be returned to the owner of each pen.

8. Eggs weighing less than 1½ ounces each and soft shell eggs will not count in deciding the contest.

9. All eggs produced during this contest are property of the Experiment Station and will be sold as market eggs to help defray the expenses of the contest.

10. No pens in this contests will be mated.

11. The right to return any entry on account of disease, under maturity or any other cause deemed sufficient to reject the entry is reserved by the Experiment Station.

12. The privilege to slaughter any bird on account of sickness or disease during the contest is also reserved by the Experiment Station.

13. Full right to determine upon the feeding and management is retained by the Contest Management.

14. The Experiment Station will exert every effort to avoid losses from any cause, but will not be held responsible should losses occur.

15. No appeal from the decision of the Experiment Station regarding any matter pertaining to the contest will be entertained.

### Basis of Registration.

The following regulations apply to the registration and advanced registration of birds as inaugurated by the New Mexico Experiment Station in

(Continued on page 16.)

# FRUIT AND TRUCK

### THE CODLING MOTH.

Several articles have been published by the Station on the codling moth; but these have been rather scientific in nature, giving the results of breeding investigations. Many farmers are not well acquainted with the different stages of the codling moth, particularly the adult form, which, as a rule, is nocturnal in its habits.

THE LARVAE: Most everyone who is interested in the codling moth is acquainted with the larval stage of the insect, as it is the larva or worm that destroys the apple and pears. If you find a worm in an apple or pear, it is almost sure to be the codling moth larva. When the larva is fully developed and leaves the apple in search for a hiding place, it is about one-half inch long. It is a light flesh color with a brown head and has six legs.

THE PUPAE: After the larvae, has fully developed in the apple, it usually leaves it in search of a protected place to hide, where it can change to the pupal stage; and form the pupae moth. After the larvae is settled in a protected, preferably a dark place, it surrounds itself with a rather thick coat of a web-like material called a cocoon. The length of time the codling moth spends in the different stages depends on the temperature. During the hot summer, in the Mesilla Valley, within about four days after the larva enters the cocoon stage, it changes to the chrysalis form, or pupa stage. The pupa is shorter than the larva, tapers at each end, is more reddish in color; and the skin is quite easily broken when touched. The pupa is quite inactive and can only wiggle a little.

THE MOTH: In about ten days after the larva has changed into a pupa, the pupa changes into a moth. The pupa skin simply splits open at one end and a pretty little moth emerges. The moth is the perfect, or adult stage. It is grayish brown in color, almost the exact color as the bark of an apple tree, so nearly so that the moth would seldom be noticed when sitting on the tree. However, the tips of the wings are of a much brighter brown color. In the sun, these spots on the tips of the wings glisten like gold. The little moth is only about three-eighths of an inch long, and is very wild. It flies at night and is seldom seen.

THE EGGS: In about two days after the moth emerges, it begins to lay its eggs on the leaves and on the apples and pears. Egg laying does not usually last more than a week. Each moth usually lays from fifty to two hundred eggs, then the moth dies. The egg is only about the size of a pin head. It is a little, rather flat, round, whitish or greyish colored speck, covered with a shiny-looking skin or film. Within about five days after the egg has been laid it hatches into a little worm, which can easily be seen with the naked eye, because of its large sized black head. These little worms begin crawling at once hunting fruit to enter. When they find an apple or pear they eat in and go almost directly to the core, where they eat the seeds and feed in the apple until they are fully developed, which usually takes an average of about eighteen to twenty days. At the end of this period, the worm leaves the apple in search of a hiding place. This completes the life cycle and makes about thirty-nine or forty days for the four stages.

FOUR BROODS: There are four broods of codling moths each year in the Mesilla valley and similar localities, consequently the insect is very hard to control. It winters in the larval stage and many of these larvae may be destroyed by winter plowing, and by cleaning out old rubbish and scraping the old bark from the bottoms of the trees. A large percentage of the larvae will go to the bottom of the trees to hide under old bark, consequently, a large number of them can be captured by placing cloth bands around the bottom of the trees and examing these every ten days and killing the larvae. The first brood is much smaller than the later ones, the second and third are the largest. About seventy-five per cent of the eggs are laid in July and August, consequently this is the time to make the strongest fight against them.

The codling moth is especially bad this year, as it is most every year in the warmer and lower valleys. However, if we fight this insect intelligently and consistently we can control it to the extent that the damage from it will not be serious. Remember that wormy fruit has practically no value.

A. B. FITE.

# FIELD CROPS

## CROP IMPROVEMENT BY SEED SELECTION.

The planting season is over and the harvest season is on. Right now is the time for you, Mr. Farmer, to select your seed for next season's planting. Don't wait until the seed is all threshed and in the bin but choose the best NOW and store it in a cool, dry place away from rats and mice.

Nearly all of our cultivated crops are grown from seed which must be planted every year or two, hence the subject of seed production is one of great importance to the farmer. It is just as important to the crop raiser to select and plant good seed as it is for the stock raiser to select and breed to good sires.

In every live seed there is a live plant in an undeveloped state. In other words we are dealing with live things just the same as if we were using cuttings or even animals. This living part of the seed is the germ or embryo. The embryo is usually but a small part of the seed. The bulky part of most seeds consists of food which has been stored by the parent plant. After the seed germinates, or the embryo starts to grow, the young plant lives on the food already stored in the seed until it has developed a system of feeding roots, and until its leaves unfold in the sunlight and air. Thus each seed that is put into the ground should have sufficient food to tide it over until it is able to provide for itself. Whether we do this or not depends upon the kind of seed we plant. Shriveled and shrunken seeds have a stingy ration of plant food while large and plump seed are well provided for and are thus better able to withstand the hardships. What does it profit a farmer if he follows all good practices of soil tillage and fertility management, if he plants bad seed, seed of low vitality or seed not adapted to his locality? Poor seed can not produce big crops of superior quality. All the money invested in farm lands and equipment; all the labor and care of the crop from the time it is planted until it is fed or sold, are limited in returns by the quality of the seed planted. If only 60 per cent of the seed that is planted produces a crop it means that 40 acres out of every 100 are unprofitable. Is it not a fact that the place and importance of good seed in farming have not been fully recognized and appreciated? Had the value of superior seed been fully appreciated ten years ago, the practice of testing all seed before planting would be universal rather than the exception at the present time, and our yields would average much higher.

The steps in crop improvement by selection are so simple that they are often overlooked or set aside as useless; while a little time spent at harvest time and at planting time will in most cases increase the yield very materially. We can still gather pecans, strawberries, plums and persimmons in the wild state, but the selected, cultivated sort are of greater size, better flavor and much more productive than those which wild nature offers us. This improvement has been brought about almost wholly by selection.

The process of improvement by selection is very simple and one that can be followed by the intelligent farmer:

First—Select seed corn in the field, studying the plant from which the ear is taken. Do not choose ears from stalks that have grown under more favorable condition than the average.

Second—Properly store the seed corn.

Third—Select the ears that come nearest meeting your ideal out of the many ears you have already selected in the field.

Fourth—Test those ears for germination.

Fifth—Plant them to themselves.

Sixth—Start all over again.

The above represents the necessary steps in improving and standardizing corn, but they can be applied with equal advantage to other crops.

Records show that it is not necessary to change seed to get good yields. In other words "running out" of varieties is due to careless selection of seed and poor tillage rather than to natural causes which deteriorate the variety. By reserving the best grain on the farm for seed and by the use of the farming mill and grain grader the yields can be increased and the variety made more valuable to the locality. Buying seed every few years from regions having different soils and climate is unwise.

Every farmer should have a seed patch. Seed improvement may be made a source of profit and betterment on the farm if the farmer is sufficiently interested to set aside a quarter or half an acre or more for a seed patch. This area should be of good ground, free from weeds and if used for corn should be a quarter of a mile or so away from other corn fields to avoid contamination with pollen from other varieties of corn.

High yielding varieties of crops cost very little more an acre than crops of low yield. The product if kept pure obtains high grading on the market, and sells at a profit when marketed for seed.

RUPERT L. STEWART.

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## UTILIZATION OF THE WINDMILL FOR IRRIGATION PURPOSES IN NEW MEXICO.

The windmill has been employed to perform mechanical work for a great many years, especially in a country like Holland. Here it is used constantly pumping surface water over the dikes into the sea, and were it not for the wind and mills, which furnish cheap power, that little country would soon become undulated with water and there would not be much of a Holland. That little nation depends on the wind for its existence.

The windmill is used mostly in this country to perform mechanical work about the farm or ranch, furnishing power to grind feed, pump water for stock and domestic purposes, and in fact any appliance where light work is desired to be performed. The ranchman uses the windmill constantly to pump water for his thirsty herds, whenever there is sufficient wind available for such purpose. It is the latter user of the windmill for which this brief article is written; that is, not only use the ever present wind supply to help furnish water for his stock but also use a portion of it to help feed himself and family. In traveling over the range sections of New Mexico, one sees numerous windmills pumping water into reservoirs for stock purposes. Once in a great while you will see a small garden patch thriving with the principal vegetables. As a rule most of the ranchers live far away from any place where fresh vegetables are obtainable. However, there is no excuse for the stockman not having his own garden patch where he can have some fresh vegetables every day during the growing season. Everybody likes fresh vegetables, even fresh onions, and especially the cowpuncher who lives on the range most of the time and who has to live out of a tin can. It is true that in some portions of the state where water is pumped by windmills, water contains an excess of alkali and would be unfit to irrigate vegetables with, but there are hundreds of ranches where the cowboys could have their own garden eats and then some to spare for canning purposes. It is not a question of water supply or power, for the range country has plenty of both and very little work would be required for most every rancher to have his own garden and plenty of garden truck.

In New Mexico we have all kinds and sizes of windmills, and plenty of wind power to pump water, but did you ever stop to think and realize how much natural motive power is going to waste which might be utilized to pump water for that garden patch? Below is a table showing the number of horsepower hours that might be used during an irrigation season. The data were taken from records at State College.

From the above table you can readily see that there are over 2000 horse power hours that could be used by the windmill for pumping water for stock and garden purposes. That amount of water is available, and in many places more, for every 14 foot windmill in New Mexico, during a time when irrigation water is needed.

Having all of the requirements necessary for a good garden; that is a good supply of water, rich soil, abundance of sunshine, reservoirs to store water in for future use, and plenty of wind for cheap power, the next question might arise, how much water is required to produce the common varieties of vegetables. **That will depend entirely on the location, type of soil and amount of rainfall,** but from general average irrigation practice, the following table might serve as a guide for the amount of water to use.

DEAN W. BLOODGOOD.

| Year and Month | Hours during which the wind's velocity per hour was | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 0.5 miles | 6 10 miles | 11 15 miles | 16 20 miles | 21 25 miles | 26 30 miles | 31 35 miles | 36-40 miles | 41-50 miles |
| 1916 | | | | | | | | | |
| April | 277 | 227 | 110 | 56 | 28 | 12 | 2 | | |
| May | 379 | 156 | 92 | 59 | 49 | 8 | 1 | | |
| June | 359 | 212 | 92 | 38 | 9 | 6 | 2 | 1 | |
| July | 201 | 275 | 164 | 73 | 24 | 3 | 1 | | |
| August | 333 | 262 | 124 | 28 | 1 | 1 | | | |
| Sept. | 330 | 235 | 100 | 49 | 4 | 3 | 1 | | |
| Total | 1879 | 1367 | 682 | 303 | 115 | 33 | 7 | 1 | |
| 1917 | | | | | | | | | |
| April | 280 | 230 | 95 | 59 | 15 | 13 | 7 | 3 | |
| May | 292 | 155 | 91 | 105 | 41 | 27 | 17 | 10 | 5 |
| June | 282 | 235 | 118 | 61 | 10 | 12 | | 1 | |
| July | 219 | 324 | 136 | 44 | 9 | 1 | | | |
| August | 388 | 259 | 64 | 22 | 9 | 2 | | | |
| Sept. | 368 | 228 | 97 | 23 | 4 | | | | |
| Total | 1829 | 1431 | 601 | 314 | 88 | 55 | 24 | 14 | 5 |
| H. P. by 14-Ft. Wheel | 0.01 | 0.27 | 0.85 | 1.80 | 3.45 | 4.82 | 5.60 | | |
| 1916 | 18.8 | 368.1 | 561.7 | 545.4 | 396.8 | 159.1 | 39.2 | 2089.1 hrs. | |
| 1917 | 18.3 | 386.4 | 510.8 | 565.2 | 303.6 | 265.1 | 134.4 | 2183.8 hrs. | |

Every farm should have a business office. It may consist of only a small table or desk and a simple book of accounts, but it will aid materially in keeping the farm business straight and up to date. Strictly speaking, the farmer is one of the busiest of business men, and he needs a business office where all records and accounts are kept in a business-like way.

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To say that a variety of grain is "run out" really means that it has become mixed, and weedy, and disease-infected.

Weeds result not only in big financial losses but also in great annoyance. Diseases, such as hay fever, could be eliminated almost entirely by adopting efficient methods for controlling the incidental weeds found along roadsides, in vacant fields, and in waste places.

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Talk to your county agent about your farm problems. He will be glad to give you any assistance possible, and place you in touch with those who can help you over your difficulties.

# HOME ECONOMICS

## HOME-MADE CIDER VINEGAR.

Cider is made by the alcoholic fermentation of apple juice, and vinegar is the product of acetic fermentation of the cider. All varieties of apples are not suited for making good cider, because their composition greatly varies. An apple which makes an excellent cider for drinking purpose may not be suitable for the production of high grade vinegar. A high percentage of sugar in apples is essential for good vinegar. A good cider apple should give the following analysis:

| | |
|---|---|
| Sugar | 167.0 g. per liter. |
| Tannin | 2.4 g. per liter. |
| Acidity | 1.6 g. per liter. |

The amount of natural acid present in the juice is insignificant so far as the final acidity of the vinegar is concerned, because it disappears during the change into vinegar. A sweet apple does not necessarily contain a larger percentage of sugar; some of the sourest varieties of apples contain more sugar than the sweetest ones. It is the presence of acid rather than the absence of sugar that makes an apple taste sour. Ripe apples contain more sugar than green ones, therefore ripe apples alone should be used for cider making. The following table gives the relative sugar content in different varieties of apples.

| | |
|---|---|
| Baldwin | 15.39 |
| Bellflower | 12.82 |
| Ben Davis | 10.60 |
| Gano | 11.32 |
| Grimes Golden | 14.05 |
| Jonathan | 11.60 |
| Maiden Blush | 9.99 |
| Northern Spy | 9.77 |
| Red Siberian Crab | 11.83 |
| Rome Beauty | 8.70 |
| Wealthy | 11.64 |
| Wine Sap | 13.34 |

There is no reason why anyone should not be able to make just as good home-made vinegar as home-made bread or butter after following closely the steps given below:

1. Select ripe, worm-free and rot-free apples. It is impossible to cover up the flavor of spoiled apples, and if decayed and dirty fruit is used, it will be out of question to control fermentation in the cider upon which the quality of the finished product depends most entirely.

2. Wash the apples thoroly in clean water.

3. Press the apples in cider press and collect the sweet cider in **new, clean barrels.** Old vinegar barrels should not be used. Metallic containers should be avoided because of danger of metallic poisoning. Do not fill the barrels more than two thirds full and keep the bung hole covered with a loose cotton stopper to check too rapid evaporation, and to keep flies and insects out.

4. For each barrel of sweet cider sterilize one two-quart mason jar by washing thoroly and boiling for five minutes in clean water.

5. Cover the top of the jar with a single layer of clean muslin or cheese cloth just removed from boiling water and secure it in place by a string tied about the neck of the can.

6. Select six to eight medium sized **ripe** apples; slice them; add one quart water and boil till soft; strain the liquid thru a clean cloth while still hot into mason jar, first removing the cloth covering from the top.

7. Make up the volume of liquid approximately one quart with boiling water: add four tablespoonfuls of sugar and replace the cloth immediately.

8. When the liquid has cooled thoroly, partly remove the cloth covering and add yeast (one cake of compressed yeast stirred up in a little boiled and cooled water for each five gallons of sweet cider.)

9. Keep the jar in subdued light at a temperature of 75-90 degrees F. After 2-4 days the foaming characteristic of alcoholic fermentation should appear.

10. After 4-6 days add the entire contents of the jar to the barrel of freshly made sweet cider. The barrel should be placed on its side.

11. Keep the barrel at 75-80 degrees F.

12. Three to four weeks after the yeast culture has been added to the cider, prepare the acetic culture. Acetic acid germs can be obtained in pure

cultures and added to apple juice following the same steps as described for the yeast in the paragraphs 3-8. Pure cultures will undoubtedly give the best result, but if it is hard to obtain them, in place of pure culture starter, one may add 2-4 quarts of good cider vinegar containing more or less "mother" to each barrel.

13. The cider vinegar containing some "mother of vinegar" should not be added to the barrel of cider until six weeks after the addition of yeast. Pour the cider vinegar into the barrel after removing the "mother" with a clean sliver of wood; next drop this with the attached "mother" into the barrel thru the bunghole. The wood will serve to float the film of "mother" which is nothing else but a colony of acetic germs, upon the surface of the hard cider and thereby hasten its development by keeping it in contact with the air.

14. Keep the barrel at 65-75 degrees F. till the vinegar has formed.

15. When vinegar of satisfactory quality has been obtained, in 3-6 months, draw it off and store at a cool, even temperature in casks which are kept full and tightly bunged.

16. Observe absolutely clean and sanitary rules during all the above operations. No flies should be allowed to get into the barrels. Vinegar containing eel-worms does not show good qualities of vinegar as many people erroneously believe, but indicates filthy and careless methods of vinegar making.

LEON H. LEONIAN.

## CANNING COMPOUNDS HARMFUL TO HEALTH

### Housewives Warned Against the Use of These Trade Substances and Preserving Powders.

From correspondence received lately at the State Chemist's Laboratory it would seem that the people of New Mexico are not generally informed as to the danger in the use of chemicals for preserving food. Concerning the persistent use of dangerous canning compounds on the market the U. S. Department of Agriculture has sent out the following warning to the various state laboratories:

"Canning compounds sold under trade names for use in canning are often harmful to health and should never be used by housewives. These preparations, which are usually in powdered form and contain salicylic acid or boric acid, are unnecessary since fruits and vegetables can be kept for longer periods in perfect condition without any chemical preservatives whatever if proper methods of canning are followed.

"The Federal Food and Drugs Act prohibits the use of harmful preservatives in foods which come within its jurisdiction. The food laws of nearly every state in the Union forbid the sale within the state of foods which have been preserved with harmful substances. Altho neither the Federal nor state laws apply to foods canned in the home and consumed there, it would seem that the housewife would not knowingly use, in the foods she preserves for her family, substances that are prohibited by law in foods for sale because the substances are injurious to health.

"The Department of Agriculture has issued bulletins that give specific directions for the canning and preserving of fruits and vegetables without the use of preserving powders or canning compounds. These bulletins may be obtained without cost upon application to the Department of Agriculture, Washington, D. C."

It might be added that the Extension Service of the New Mexico State College of Agriculture and Mechanic Arts will also be glad to give out information in regard to canning foodstuffs which may be done by applying directly to the department at State College, New Mexico, or thru the county agricultural agents.

There is need of conserving the dishes as well as the food you put in them. Pottery promises to be scarce and expensive.

As a matter of economy consider the possibilities of the old-fashioned way of buying foods in bulk. Package goods have their value, but in these days it may not be good buying to pay for the package.

# FARM BUREAU

## MARY B. RICHARDSON HEADS HOME ECONOMICS WORK OF EXTENSION SERVICE.

Miss Mary B. Richardson has arrived from Iowa to become the State Leader of Home Demonstration Agents in New Mexico. She took charge of her new duties August 1, and has already covered a considerable part of the state in getting in touch with the conditions as they exist here.

The Agricultural College considers itself especially fortunate in having secured a leader of Miss Richardson's experience and ability, to head this important work in New Mexico. Miss Richardson has had a great amount of experience of various kinds of which will be invaluable to her in her new position. Starting her life work as a rural school teacher, she has had experience in teaching all grades and also teaching Home Economics in the public schools.

During the past six years she has been connected with the Iowa Agricultural College at Ames, Iowa. During this time she filled various responsible positions, acting as editor of all club bulletins, serving as Home Demonstration Agent of Calhoun County, Iowa, and for several years acted as Assistant in Extension Home Economics.

She was raised on a farm and since then has had much experience with farm life, both in the home and with the actual farming operations. With this store of experience to draw from, she will add strength to the Home Economics Extension work in this state.

## LUNA COUNTY FARM BUREAU STUDIES COST OF BEAN PRODUCTION.

Can beans be produced for 6 cents? "Yes" and "No" are the answers one gets from some of the cost survey records taken by the Luna County Farm Bureau under the direction of County Agent Heyman.

When beans dropped to six cents last spring, the farm bureau decided to determine whether beans could be profitably produced for that price in Luna county. Blanks were prepared by the county agent and sent to the farmers and these were used to determine the production cost. The following summary of five representative farms will give some idea of cost variations altho the number of farms included may not be sufficient to draw reliable conclusions as to the average cost. The fact that they are representative farms should carry considerable weight.

| Farm | Acres | Per Acre | Average Cost Per Acre | Per Lb. |
|---|---|---|---|---|
| 1 | 11 | 765 | $42.91 | .056 |
| 2 | 12 | 476 | 31.41 | .066 |
| 3 | 25 | 1,200 | 53.69 | .045 |
| 4 | 50 | 194 | 32.88 | .169 |
| 5 | 23 | 995 | 42.40 | .043 |

SUMMARY

| | |
|---|---|
| Ttoal acreage | 121 |
| Total pounds produced | 76,712 |
| Average yield per acre | 634 lb. |
| Total cost of production on 121 acres | $4,810.37 |
| Average cost per acre | $39.75 |
| Average cost per pound | $.063 |

If we take the total yield of all farms, 75,992 pounds, and divide by the total cost of all farms, $4798.61, we find the average cost to be only 6.3 cents. This figure will more truly represent the actual average cost to produce beans on these five farms.

All these beans were produced under irrigation with pumping plants and represent the 1918 crop. It will be noticed that those with the highest cost per acre, also had the highest yields and the lowest cost per pound. These figures would indicate that it pays to farm quite intensively under conditions as they are found in Luna county.

## FARM BUREAU ACHIEVEMENT PROGRAMS.

County Agent Yates, with the four district club leaders, is planning to have the Achievement Day programs in connection with the farm bureau picnics. A big day is expected in each of the four districts. The boys and girls are coming out with their exhibits of fruits, vegetables, pigs sewing, cooking, rabbits, canned products and grain. The boys and girls will tell briefly of their achievements and will be awarded their club pins. The fathers and mothers and friends will be present and enjoy this day and to really see how the boys and girls reap the benefits of lining up with the farm bureau projects.

### COUNTY AGENTS HOLD SUMMER CONFERENCES.

Sectional conferences of county agents have recently been held at Santa Fe, August 6, 7 and 8 and at Cloudcroft August 12, 13 and 14.

In addition to the supervision staff from the central office, Director Cooley, State Club Leader Foster and Miss Mary B. Richardson, State Leader of Home Demonstration Agents, were in attendance. H. W. Hochbaum, representing the county agent work in the states of the North and West for the Washington office, assisted in the program.

The keynote of the conference was the work of the Farm Bureaus of the state and the extension of farm bureau work. The sentiment among the more progressive farmers is steadily growing in favor of this form of organization for the carrying on of Extension work in the counties. The Farm Bureaus are recognized today by the central office at State College as the one organization which can most effectively keep the wishes and needs of the people before Extension officials and provide a means of solving rural problems.

## CLUB WORK

### CAPTURE YOUR CLUB CHARTER.

The national club department at Washington has issued a very neat charter which may be obtained by every club complying with the first four rules of a "standard club." These rules are found on the second page of the brown cover for all club lessons and instructions.

The charter is 17 by 34 inches in size and is a work of art in black and white. On the scroll you will find the club meeting represented as well as various club projects portrayed in picture which tell their own story. Then, too, there are a great variety of agricultural and home products represented indicating the activities of club members in almost every section of the country.

Inside the scroll is the significant wording, "Boys' and Girls' Club Charter Awarded by U. S. Department of Agriculture and New Mexico College of Agriculture, Cooperating." After the name of the club, which is to be written in are the words: "In recognition of its organization as a Standard club and its agreement to carry on demonstrations in agriculture and home economics in accordance with approved plans for Boys' and Girls' Club work." Then follow the signatures of Hon. D. F. Houston, Sec. U. S. Department of Agriculture, Mr. A. C. Cooley, Director of Extension, and that of the state club leader.

At the bottom of the scroll, surrounding a picture of a bread making demonstration we find four circles enclosing the national club emblem ,four leaf clover and the four H's, indicating where to place the four seals of achievement which can only be won by fulfilling all the requirements of a Standard club. One seal is given for each year's achievement. Just to the left of the signatures of authority is the national seal of the U. S. Department of Agriculture.

What do we read into this charter and what visions does it give us?

First of all, we see the boys and girls in their native element on farm and garden, in home and kitchen, closely in touch with nature where physical, mental and moral growth are as natural as the plants and animals about them.

The boys and girls are producers of the actual necessities of life and growing into independent masters of a real business. They are learning to do by doing. They are becoming the brawn and brains of the commonwealth and developing into the highest power of true citizenship. No microbe of Bolshevism lurks in the veins of these true soldiers of the soil, but there is the rich, red blood corpuscles of patriotic Americanism.

The charter stands for "Achievement, which is the only patent to nobility of modern times," says President Wilson. It is an inspiration to the young and hopeful to make them see visions and dream dreams. It awakens the thrift spirit and energetic habit and robs labor of its sting. It creates courage, defies danger and overcomes obstacles. It widens the horizon of the country home and courts contentment with a surety for success.

The clubs that get these charters should prize them enough to have them framed and hung up in their school houses or their most common meeting places. Drape the charter with the American flag and open each club meeting with the flag salute and the club pledge.

These charters now in the state club office will be sent out to the organized clubs of 1918. Just as soon as the leaders report their "Standard Clubs" for 1919, application will be made to the Washington office for charters for all clubs newly organized this year. Do you want one of these club charters? Then make your club a "standard club," report that fact to the state club leader and he will secure for you a charter.

W. T. CONWAY.

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## FLASHES FROM THE FRONT.

The Club Specialist has just returned from a canning tour thru the counties of Lea, Eddy, Chaves, Curry and De Baca. Prospects are good thruout the eastern section of New Mexico for fat stock and abundant field crops.

In Lea County, the Club Specialist put on several canning demonstrations at the request of County Agent Tarlton, who is interested in seeing the farm women conserve their supply of fruits and vegetables.

Mr. Tarlton has recently started some pure bred pig clubs by the aid of "Successful Farming" and the local bankers of Lovington. The breed selected is the Poland China.

Mrs. Maude Wyman-Jenkens is getting results with club members in Eddy county. The canning campaign brought mothers as well as club members. At Hope, the girls of the canning club team have secured the use of the domestic science equipment of the public school and will practice canning once a week until the time for their exhibit in September.

In the upper Cottonwood district, the ladies, both young and old, were very much interested in the canning demonstrations of corn, beans, chicken and fruit. The hostess served punch and cake to the crowd and a fine social time was spent after the work was all done.

No demonstrations were given in Chaves county by the Specialist. He visited some of the Calf Club members and their calves with Miss Lucille Woodward, home demonstration agent, who is looking after the club work in that county. The high-grade Holstein calves bid fair to be money makers for the club members.

Curry county has very fine vegetable gardens this year. The supply of moisture has been generous and when rains have been slack the windmills have done good service. Mrs. Una M. Steed, county club leader, has done some good work with the boys' and girls' clubs. Pig Clubs, Poultry Clubs, Field Crops, Canning, Cooking and Sewing are the main projects.

The Club Specialist gave three canning and drying demonstrations and trained one canning club team during the four days spent in Curry county. These demonstrations were well attended and the interest was fine all the way thru. At Bellview, the cooking club members brought their club cakes and spread a feast of cake and lemonade at the close of the demonstration.

Only two demonstrations were given in De Baca county. These were held at the request of the county agent and the farm women. The latter wanted to know how to can corn and beans so they would keep.

The demonstration method of teaching folks how to do things is the quickest and best way of getting principles and good practices before the people. This is the work of the state Extension service.

## THE FIRST NEW MEXICO EGG LAYING CONTEST

(Continued from page 6.)

the First New Mexico Egg Laying Contest.

1. To be eligible for registration, a bird must conform to the following requirements:

a. Be free from standard disqualifications.

b. Score at least 75 by the American Poultry Association score card.

c. Weigh at least 80% of the standard weight for her particular variety at the end of the Contest year.

d. Produce not less than 190 eggs averaging to weigh not less than 1½ ounces each during the Contest year.

2. To be eligible for advance registration, a bird must conform to all the requirements of registration and also must produce not less than 225 eggs, averaging to weigh not less than 1½ ounces each during the contest year.

3. Appropriate certificates will be awarded to registered and advanced registry birds at the close of the Contest year. Record of the owner of the bird and her performance will also be maintained by the Contest Management. This record will be in the form of flock books for reference.

4. A sealed leg band with the bird's registry number will be placed on each bird which fills the required qualifications for registry or advanced registry.

### Contest Awards.

In addition to the certificates of registration and advanced registration, the following awards will be made:

1. To the pen making the highest production for the year, a diploma and silver cup.

2. To the hen making the highest production for the year, a diploma and silver cup.

3. To the pen making the second highest production for the year, a diploma and bronze plate.

4. To the hen making the second highest production for the year, a diploma and bronze plate.

5. To the pen making the third highest production for the year, a diploma.

6. To the hen making the third highest production for the year, a diploma.

7. To the pen making the first, second and third highest production for each month, a diploma.

8. To the hen making the first, second and third highest production for each month, a diploma.

9. To the hen making the highest production from November 1, 1919, to February 29, 1920, a special cup, providing the highest production is 60 eggs or more. R. B. THOMPSON.

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### ENTRY BLANK

First New Mexico Egg Laying Contest,
New Mexico Experiment Station,
State College, New Mexico.
Sirs:

I hereby make application for the entry of one pen of pullets of one variety, hatched during the spring of

1919, of the......................

..................variety. I hereby certify that these pullets are my own property. I also agree to abide by all the rules of this contest. The prescribed entry fee is enclosed herewith.

Signature ........................

Address......................

---

Mrs. Koger reports the club work in Torrence county with County Club Leader Bennett as going with lots of "pep." Mr. Bennett has the good will and support of the parents and club members. The boys and girls are so very busy working in the fields that Mr. Bennett conducts many club meetings at night.

Torrance county is making preparations for the club exhibits and Achievement Day programs. A fine spirit of rivalry exists and we are expecting some very excellent exhibits.

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Some very excellent club gardens are to be found in Quay county. The heavy rains washed away many of the field crops, but in most cases the crops were replanted and the boys and girls are going ahead to make "your best better." Canning clubs are being organized in Quay county to take care of the surplus vegetables, due to the heavy rainfall this year.

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# THE NEW MEXICO FARM COURIER

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Vol. VII. OCTOBER, 1919. No. 11

A CLUB MEMBER BECOMING FAMILIAR
WITH HER FLOCK.

Published Monthly by the Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M., and United States Department of Agriculture, Cooperating.

# THE NEW MEXICO FARM COURIER

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A. C. COOLEY, Director of Extension.

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**Boys' and Girls' Club Work—State College.**

Robert Foster, State Leader.
W. T. Conway, Canning and Drying.
Elizabeth Koger, Assistant Leader.

**County Home Demonstration Work.**

Lucille Woodard, Chaves Co., Roswell.
Sarah Van Vleck, Doña Ana Co., Las Cruces
Edith M. Hurley, Union Co., Clayton.

# EDITORIALS

BY PRESIDENT CRILE.

## MAXIMUM.

A maximum crop on an irrigated farm means success. You may have a minimum or half crop on cheap lands in a humid country and make money; but such a condition does not work out on irrigated land. A study of the cost of bean production, as recently published in the "Courier" by County Agent Heyman of Luna County, again emphasises this same point. The man who grew 1200 pounds of beans per acre grew the beans at 4.5 cent a pound. The man who grew 194 pounds to the acre grew them at an expense of 16.9 cents, emphasizing again that maximum production is prosperity and minimum production is failure.

Any one who will plow land, level it, border it, and incur the expense of applying the water properly and cultivating properly must produce a maximum crop or "bust;" and therein lies the reason for much of the "busting" that we have on irrigated lands in New Mexico. If you grow one and ½ or two tons of alfalfa to the acre on irrigated lands, and grow a hundred acres of this sort, you had better make some financial connections with your wife's folks; because the day is not far off when you will need help from somewhere. You had better reduce the acreage and get five or more tons to the acre; because five tons of alfalfa per acre, forty or more bushels of wheat to the acre, or fifty or more bushels of corn to the acre always spell prosperity.

I wish the reader would stop and consider this matter very carefully—look around him to investigate and see whether this statement is correct or not. I know, personally, of one acre of alfalfa that netted more money one season than twenty four acres nearby did. The reason was that the one acre produced seven and a half tons of alfalfa and the twenty four acres produced less than two tons to the acre, and the twenty four acres consumed practically the total value of the hay, in producing it. We must get away from the remarks of the Irishman who bought a hog in the fall for five dollars, kept him until spring and sold him in the spring for five dollars; but when some one raised the point that he had not made anything, the reply was that while he had not made any money, he had had the use of the hog all winter. We don't want our farms to be like that hog. Maximum production will change them into profitable places and happy homes.

## BALING WIRE, NAILS, STAPLES, ETC.

The reader may be interested to know what this heading stand for. It represents some of the hardware that we took out of a cow's stomach, and this is the second cow's stomach that we have taken hardware of that description out of within the past few months. Imbedded in the tissues of the stomach of a dairy cow that recently died at State oCllege were the following:

9 nails
I large staple
1 small staple
30 pieces of bailing wire
12 pieces of lead
2 pieces of brass
4 tacks
7 miscellaneous pieces of metal
Several ounces of sand and gravel.

One staple, four nails, four tacks and seven miscellaneous pieces of metal had gone thru a feed mill.

There is no doubt but that many dairy cows are lost each year and the occasion of their dying has been attributed to a great many and variety of things. The fact is that in many cases the cow is full of bailing wire, nails, screws, staples, stones, grit, etc., that have been fed along with baled hay or mixed in with the grain. The cow may live to be eight, ten or fifteen years old, as a dairy cow; but finally she gets more hardware than she can navigate with. A nail in the stomach sets across towards the heart, an abscess is formed, and the poor cow dies. The common accusation is that she died of pneumonia or tuberculosis, or sometimes, I suppose, it may be said that she had the hollow horn or wolves in the tail, etc. It was hardware that caused the death. I would never feed a good cow of any breed baled hay if I expected to keep her for a lifetime, and I would never allow any nails or hardware of any sort to be near her or near the feeding place, if I meant to take really proper care and precaution regarding her.

## ENSILAGE.

In this issue there is an article—a rather long one and somewhat technical—written by Professor Leon H. Leonian of our College. I invite all the readers to study this article carefully. I think it is scientifically correct and will help us to understand something about ensilage. The occasion for the preparation of this article was that a certain weekly publication, known as "The Country Gentleman," which should better go under the name of "The City Agriculturist," recently had an article on ensilage that was filled with all sorts of radical statements; asserting, among other things, that a distiller had found some bacteria that he could let loose in the silo, and these bacteria would make the value of the silage fifty percent more than formerly. Of course, this was the purest sort of "rot," but the editors of the "Courier" deemed the matter of sufficient importance to justify the preparation of a reliable article on ensilage.

There is no mystery about ensilage. You cut it fine, tramp it solid, with sufficient moisture, keep the air out, and you have ensilage. You will take out practically all you put in, but you cannot put corn stover into a silo and then find some microbe that will reproduce the corn and fetch corn and stover both out. You bring out only what you put in, but you waste none that you put in, and the feed is in better condition for assimilation than formerly.

No well regulated farm will long be without a good silo, and no good farmer will fill many silos until he knows how to do it, and if he does, he has some of the best and most available feed that can be grown on the farm. A good silo, with proper ensilage, is a great asset for maximum work on a farm.

# C. F. MONROE BECOMES EXTENSION DIRECTOR

C. F. Monroe, for the past eight months county agent leader of New Mexico, has been appointed to succeed A. C. Cooley as Director of Extension. Mr. Monroe came to this state from Washington last February and since his arrival has covered the greater part of the state in the interest of county agent work, so he is not a stranger to our New Mexico conditions.

Before coming to New Mexico Mr. Monroe, for eight years, had been connected with the Washington State Agricultural College. During four years of this time he was connected with the Animal Husbandry department and during the remaining four years with the county agent force both as a county agent and as assistant county agent leader.

Mr. Monroe is a graduate of Iowa Agricultural College and has also done some graduate work at Washington State College. After finishing his college course he spent several years in general farming and commercial work. Having also been raised on a farm, this experience has given him the viewpoint of the farmer as well as that of an educator.

Since coming to New Mexico Mr. Monroe has won the respect and confidence of those with whom he has come in contact, this being especially true of those with whom he has been associated in extension work. New Mexico citizens can feel assured that under his leadership the Extension Service of the New Mexico Agricultural College will continue to serve the agricultural interests of the state in a most efective way.

# LIVESTOCK

## MICRO-ORGANISMS AND SILAGE.

When green plants are cut and placed in a heap certain physical, chemical and biological changes occur. At first there is a rapid evolution of heat followed by a considerable amount of gas, a loss of some dry matter, a change of color, production of aromatic odors, and development of organic acids. These acids are responsible for the sour taste of the silage.

Plant tissues after being cut and placed in the silo continue to respire for a time. Respiration produces oxidation, heat and carbon dioxide gas. Micro-organisms working on the plant tissues stored in the silo also generate heat and gas. The evolution of heat and gas marks an actual and unavoidable loss in the organic matter of the silage. This loss is more than replaced, however, by the production of various acids which preserve the silage, stop further oxidation, prevent destructive fermentation, soften the fibers, make the proteins more digestible, and add new and agreeable flavors to the silage. The criterion of good silage is the kind of acids present rather than the quantity. A good silage should have sufficient amounts of acid to insure its keeping, but beyond this point the silage may vary in the amount of acidty and yet be classed as normal, or even poor. All good silage contain lactic, acetic and propionic acids. In alfalfa and other silages of poor quality butyric acid is always present varying with the degree of spoiling which the silage has undergone.

### Agencies Responsible for Acid Production.

The agencies responsible for the production of acids and the preparation of silage are of physical-chemical and biological origin. Opinions vary. Some believe that the action of micro-organisms has very little influence, if any, upon silage fermentation, and maintain that the physiological and chemical changes taking place in the cells of cut and stored plants constitute the chief factors. Others minimize these and ascribe the fermentation to micro-organisms. Both back their belief by many experimental data. It has been shown that silage of good quality can be obtained when the atmosphere of the silo is saturated with ether, chloroform, or benzol. Bacteria and yeasts can not function in such an atmosphere, therefore the development of acids and preparation of silage in such an atmosphere is due to physical and chemical changes which take place in the plant cells. But how can we underestimate the role of an enormous number of bacteria and yeast which literally swarm in the silage? There they are not checked by the presence of ether or chloroform or any other preventive agency. It has been estimated that on a gram of corn leaf taken from the field there are several hundred thousand bacteria and yeasts. When corn is harvested and passes thru the cutting machine, every piece becomes covered with a film of sweet juice upon which these micro-organisms begin to feed and multiply. One bacterium in one day can produce many millions of bacteria when the conditions are favorable. The number of the organisms present in the silage is beyond human conception. Can we minimize their role in the changes which the corn undergoes when placed in the silo? Conservative thinkers, therefore, believe that both the physical and chemical changes of plant cells as well as the activities of micro-organisms are responsible for silage fermentation.

There are many species of bacteria able to produce lactic acid. Of these Bacterium lactis-acidi and Bacterium bulgaricum are the most important. These species may have various other strains which may or may not work together. The direct change of sugar to lactic acid is brought about by these bacteria which are always found abundantly in nature and on plants. Acetic acid, however, is the result of a more complex change and results from the activities of yeasts and acetic acid bacteria. The yeasts attack the sugars and change them into alcohol. The acetic acid bacteria then attack the alcohol and change it into acetic acid. After a certain amount of acid is formed, the lactic acid producing bacteria become unable to function, while the yeasts being able to tolerate more acid keep on functioning until all the sugar is used up or the acid content has passed beyond their endurance.

### Amount of Acid Produced.

The percentage of acid produced in the silage is almost exactly equivalent to the percentage of the sugar that was present in the fresh silage. Experiments with corn silage have shown that the acidty of the silage as it enters the silo is 0.18 per cent figured as lactic acid. The final acidty is 2.07 per cent of which 1.36 per cent is lactic acid and 0.71 per cent is acetic acid. One hundred tons of silage may contain three thousand pounds of mixed acids. If these acids could be separated from the silage they would be worth seventeen hundred dollars more than the silage at the average market price. If a cow is fed forty pounds of silage a day, she consumes ten ounces of pure acid equivalent to seven quarts of vinegar. But since the lactic acid is the dominating one and it serves as a good appetizer, as a tonic to digestion, and it inhibits the growth of undesirable bacteria in the alimentary canal of the animals, the consumption of so much acid per day is beneficial rather than injurious.

### Air Encourages Growth of Decay Producing Organisms.

Acid bacteria and yeasts grow in the presence or absence of air. But air encourages the growth of decay producing organisms which rapidly destroy or neutralize the acids formed, and the silage is changed to a black, humus like mass. This is why the top of silage when left undisturbed, putrifies and when the silos are not airtight or the silage is not packed firm enough to exclude air, the mass decays. When air is excluded from the silo, the micro-organisms are compelled to attack the plant tissues in order to obtain oxygen necessary for their life functions. This oxygen is taken primarily from the sugars. If a plant does not contain large amounts of sugar to be changed into sufficient acids to preserve the silage, it can not produce a good silage. Alfalfa, when used alone, does not give satisfactory results, because it does not contain enough sugar, while an addition of sorghum, rich in sugar, will produce good silage from alfalfa.

There are several types of micro-organisms responsible for fermentation. Only one kind of organism gives undesirable results. Experiments have shown that in case of sauerkraut fermentation, which is similar to silage fermentation, pure cultures of lactic acid bacteria produced unpleasant odors and flavors which vanished upon the addition of yeast. When sterilized corn leaves were inoculated with pure cultures of lactic acid bacteria, the resulting product resembled everything else but silage. Under laboratory conditions where silage was made in an atmosphere of ether, the final product was of good quality but contained less acids and aromatic odors. This strengthens the belief that silage is the product of the combined activities of micro-organisms and the physical and chemical changes of the plant cells.

### Is It Practical to Introduce Pure Cultures?

Introduction of pure cultures of lactic acid bacteria into the silage, as it has been emphasized recently in a popular magazine, is of doubtful value, to say the least. Plants in the field are literally swarmed with lactic acid producing bacteria of many strains and an enormous number of yeasts as well. It is unnecessary, therefore, to introduce them. One species or one strain of bacteria without assistance of other bacteria and yeasts cannot produce desirable fermentation as experiments have shown. Before pure culture of lactic acid bacteria is able to control the entire fermentation it is essential to eliminate all other organisms from the silo. In order to do this it becomes necessary to sterilize the whole mass of cut plants, the silo, the implements, etc. This is possible in the laboratory with miniature silos, but it is a hopeless adventure under ordinary farm conditions. The production of alcohol and acetic acid in the silo, even if it was of any advantage, cannot be prevented, no matter what quantities of pure cultures are added. The lactic acid bacteria cannot check the rapid development and activities of yeasts and acetic acid bacteria. Long after the lactic acid bacteria have stopped their work, yeast will continue to grow and function. Pure culture fermentation in silos may sound well on paper, but in actual practice it is best to follow the old methods.

LEON H. LEONIAN.

## MORE SHEEP ON THE FARM.

I must frankly acknowledge that there is no branch of livestock industry today that looks as promising as sheep raising. If farmers only realized the revenues that could be obtained from sheep and the manner in which weeds could be controlled, New Mexico instead of being in third place in sheep population, would be first.

### First Essentials to the Beginner.

Do not get a large bunch of sheep at first. Select young, thrifty ewes, with a good constitution, (not necessarily pure-bred); then, get a good registered buck. A $50 buck is a good investment. Do not breed from a scrub. The native ewe does very well. If a mutton or feeder lamb is required, a cross with a Shropshire or Hampshire buck gives very good results. The buyer likes the cross bred lamb for they do very well in the feed lots and make quick gains. Do not plunge into the sheep business without reading up on their care and management. Seek the advice of the successful grower in your vicinity, or write to the State College for information, or apply to your county agent for bulletins; they are free.

### The Next Step.

Has careful thought been given to the pasture, the feed problem, water and shelter? Sheep do not require expensive stables or housing, about the only time this is necessary is during lambing time, or in cold rain storms. A good wind break is all that is necessary. If sheep cannot get to the pasture, they must be fed. In this connection, the silo is an important economic factor. When silage is first fed to sheep, it should be in small quantities. Sheep do not take to silage eating very readily. They are slow, so do not force them, but add a little grain ration with it. Do not make the mistake and expect that silage will fill the bill. Silage is a wonderful tonic, but something else will have to be added to get the best results. Too much silage will purge sheep; a little care is all that is necessary. Try to arrange the balanced ration. Alfalfa or prairie hay could be added with a little grain and cottonseed. If sheep are fed silage, granting they are getting some dry feed as well, 1-4 pound of mixed grain will keep them in fine condition during the winter and will enable the ewe to bring forth a strong, vigorous lamb and plenty of milk to support it.

### A Half Starved Ewe Is a Calamity.

This not alone applies to ewes but to all producing animals. The starved ewe has no milk when the lamb arrives. In a number of cases she refuses to recognize it; the bottle then is sought, and after weeks of worrying, a potbellied little pinco is all that we have. The well fed ewe of a good wool type will shear 10 pounds at least, and give us a 70 pound lamb at shipping time.

The small carefully handled herd on the farm should average a profit of from 12 to 15 dollars each. Sheep are nervous creatures and should not be worried by dogs or other causes. One of the greatest drawbacks to the sheep industry is the prowling, mangy cur of a dog. Has he more privileges than his owner? The only way to treat such destructive beasts as this is with the shot gun. The dog problem is not solved by license. Cow bells on 10 per cent of your sheep will keep away dogs. Don't use the little dinky sheep bells. There are probably 25,000,000 dogs in the United States and 50,000,000 sheep, or two sheep to every dog. One million dogs and one hundred million sheep would be more appropriate.

### What Is the Remedy?

Put the dog on the same legal status as horses, cattle, hogs and sheep. Take away his right to run at large day and night. If this is done, sheep raising will be more profitable and there will be more sheep on the farm.

E. P. JOHNSON.

# FRUIT AND TRUCK

## ONION CULTURE.

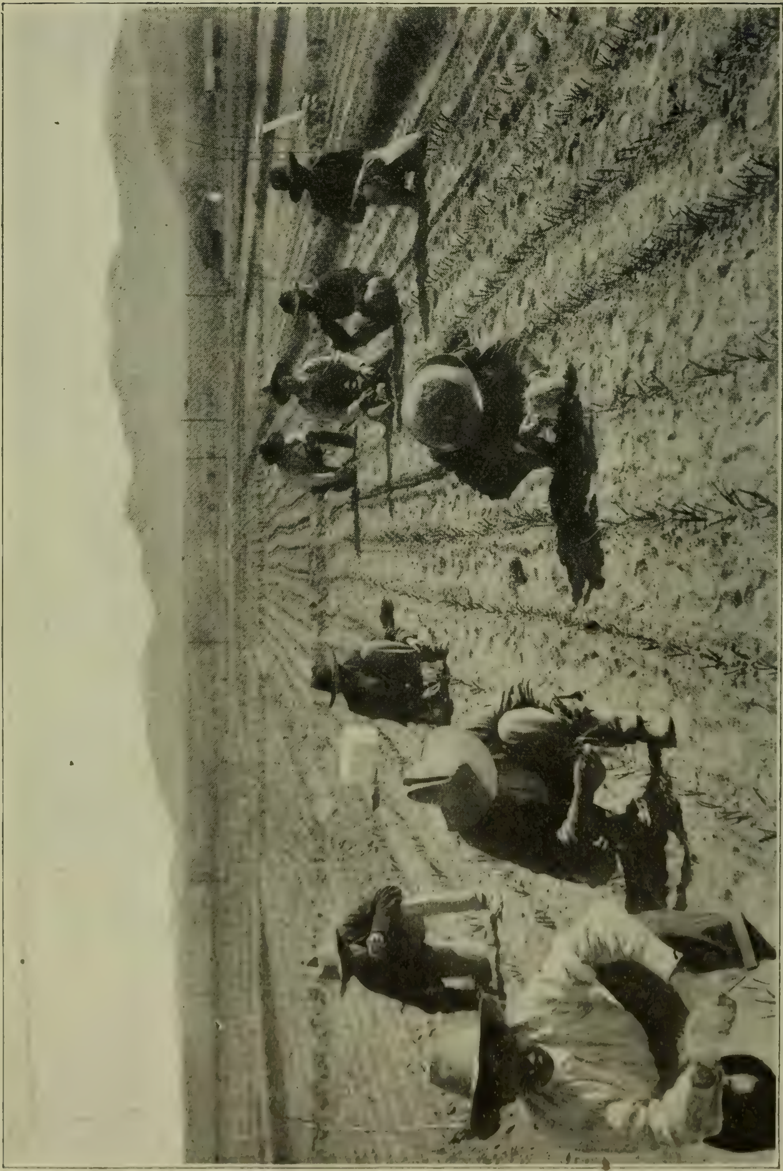
The onion belongs to the cold season vegetables and prefers cool conditions for its best development. In the warmer and lower irrigated valleys of the state, where the summers are hot, the onion has given better results when started early enough in the spring so that the plant can make most of its growth before the exceedingly hot weather sets in. In the northern and more elevated agricultural districts, where the summer temperatures are not so intense, the onion will grow and develop without any check during the summer months and can be planted much later in the spring than in the southern and warmer parts of the state.

### Time of Planting.

The experiments conducted with onions at the Experiment Station at an altitude of 3,800 feet, where the summer temperatures are quite intense, show that better yields may be obtained by either transplanting the plants, or planting the seed in the field very early in the spring. Better yields were obtained when the seed was drilled in the seed-beds from the 25th of September to the 10th of October. When planted at this time the seed germinated well and the small plants, as a rule, made good growth before the very cold weather set in. During the colder part of December and January, the little onion seedlings did not make any top growth, but they seemed to make a good root growth. Just as soon as the warm days of February set in, the small plants began to grow rapidly and were, as a rule, ready for transplanting to the field during the month of March. The earliest transplantings gave the best results. In a number of cases the transplanting was done by the 15th of March. **Always transplant just as early as possible in the spring.**

The old rule, regarding the onions being the size of a lead pencil before being transplanted to the field, was not adhered to in all cases in the experiments conducted. The results obtained from seedlings smaller than a lead pencil were just as good as those obtained from the larger seedlings. This shows that even tho the seedlings are not the size of a lead pencil when the proper time comes it would be better to transplant them even if they are quite small.

When seedlings are to be grown for transplanting, the seed may be drilled in rows four inches apart by using a garden drill. Great care should be



TRANSPLANTING DENIAS IN THE EARLY SPRING. NOTICE THE DEPTH OF FURROWS.

taken not plant too deeply, from one-half inch to an inch should be the maximum depth. If planted deeper than this, the stand, either in the seed bed or out in the field is liable to be poor. If the transplanting method is followed, it will take as a rule from two to three pounds of seed to produce enough plants for one acre. If the seed is planted out in the field, it is better to use from four to five pounds to the acre to insure a good stand.

### Irrigation.

Immediately after the seed is drilled, it should be irrigated in order to produce germination. The number of irrigations the seed-bed will require during the winter depends on the weather conditions. However, the young seedlings should not be allowed to get too dry during the winter. At the Experiment Station during mild winters, the young seedlings have been large enough for transplanting by the latter part of March or the early part of April. The seed-bed soil should be a very rich loam.

Field Seed Planted September 25 in a Young Orchard.

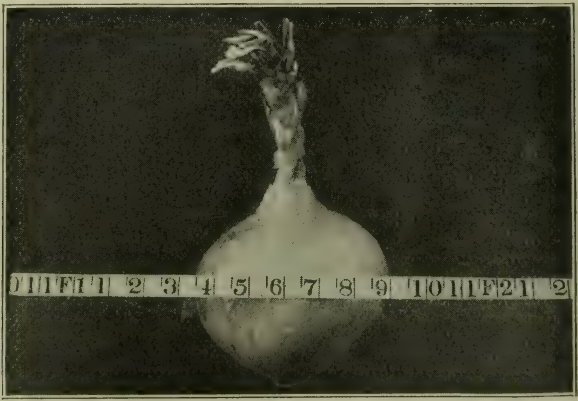
### Repairing the Soil.

It is always advisable to prepare the field just before the onions are transplanted. In this way all of the weed seeds that are germinated will be destroyed, thus eliminating considerable work later on in the season. After the land is thoroly plowed and leveled, the rows may be marked off with a homemade marker, or any other suitable marker. Have the runners of the marker arranged so that they do not make the furrows deeper than one and one-half to two inches in depth. If the transplanting is done in furrows, the dibber or garden trowel will not be needed. A man working fast should be able to transplant from four to five thousand seedlings in a day. The onions can be transplanted four inches in the row and fifteen inches between the rows. Soon after the seedlings are transplanted they should be irrigated.

In case the seed cannot be planted in the fall in the warmer and lower parts of the state, the next best thing to do is to drill the seed in the field early in the spring. At the Experiment Station, the February plantings have always given the best reuslts. The seed can be drilled in rows fifteen inches apart and as soon as the little seedlings are large enough the crop should be thinned to four inches in the row. Great care should be exercised in thinning in order not to disturb the roots of the little seedlings that are to remain in the field. It has been found that the thinning of onions in the field is a more expensive and tedious operation than the transplanting of the same area. In the northern and more elevated sections of the state, the transplanting method would probably not be as practicable as in the southern parts on account of the very cold winters which might kill the young seedlings in the seed-bed, consequently the crop should be started in the field in the spring. Which ever method used, the soil must always be as fertile as possible. Onions require a good rich and mellow soil to grow to the best advantage, sandy or heavy adobe soils are not as desirable. A good rich loam is the best onion soil.

### Insect Pests.

As a rule onions are quite free from insect pests. The most troublesome pest found at the Experiment Station was the thrips, which is a very small inconspicuous sucking insect. This insect is more troublesome when the onion field is allowed to become overrun by weeds and grass. Thoro cultivation is very necessary, not only to make the crop develop well, but also to help reduce the insect troubles. Black leaf 40, as well as other contact insecticides, have been used against the thrips at the Experiment Station.



A Good Sized Denia Raised on the Experiment Station Farm.

### Varieties.

Many varieties are adapted to New Mexico. In the southern part, the Brown Australian and Denia seem to be the most popular ones. The Brown Australian is a small, solid, and a good keeping variety, which seems to be quite popular in the local markets. The Denia matures a little later and grews a much larger bulb, but it is not quite as good a keeper. This variety seems to be better for shipping to the Eastern markets. Since the Denia onion has proven to be well adapted to many of the warmer agricultural sections of the state, and since most of the Denia onions consumed in the United States are imported from Spain, it would appear that there might be a furture for the development of the Denia onion industry in New Mexico.

In the northern and more elevated parts of the state, besides the Brown Australian, the Red Globe, The Red Wethersfield and the Yellow and Red Danvers are very popular for planting. More detailed information may be had from Station bulletins Nos. 74, 82, 92 and 115.

FABIAN GARCIA.

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### THE FUTURE FARMER.

The farmer who is too suspicious to get together with his neighbors in order to do cooperatively what no man can do alone, is sure to pay dearly for his lack of confidence and his incapacity for team work. The social spirit and a capacity for cooperative effort are fundamental necessities of the new agriculture. The day of the Ishmaelite and the individualist is over. The future belongs to the men who are able to cooperate with their fellows in pursuit of their common interests.—Assistant Secretary of Agriculture Vrooman.

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The county that is best organized to further its own agricultural interests this year and next and in the future will command the attention of the buying public. That means profit.

# FIELD CROPS

## THE RUSSIAN SUNFLOWER.

Different varieties of sunflowers have been grown for many years in New Mexico for ornamental purposes, and several attempts have been made to grow them for feed; but due to the small acreage planted the birds have eaten the seeds as soon as they were well formed.

The wild sunflower, (Helianthus Annus), is a native of the great plains area of America. From this native sunflower the Indians developed a variety with seeds as much as two fifths of an inch in length from which they obtained oil for their hair. The early Spaniards introduced this improved type into the gardens of Spain and later its cultivation spread to nearly all parts of Europe. In Russia, where the religious fasts restrict the use of meat, a demand has been created for a vegetable oil and the sunflower seed and oil have almost become staple foods.

Russian Sunflowers Growing on the Station Farm Which Produced 20 tons per acre.

### The Cultivated Sunflower.

The cultivated sunflower is an erect herbaceous annual which grows from five to twenty feet in height and the diameter varies from one half to three inches, depending to a great extent, as does the branching, on the density of the stand and the texture and fertility of the soil. The stalks and branches are usually covered thickly with short gray hairs. The leaves are alternate and heart shaped with about the same width as length, varying considerably in size from six to eighteen inches. The number of heads per plant vary also, yet plants that produce only one head are more desirable, having a greater diameter and much larger akenes or seeds. The akens of the type commonly used are white with brown stripes on each side. They are obovate oblong and somewhat flattened in shape. Several other less common cultivated varieties exist.

### Uses.

Sunflowers have many uses in different parts of the world. Where fuel is scarce in certain plains sections, the heavy stalks form a very important source of fuel. The green plant can be used for ensilage or it is eaten readily by sheep and cattle if fed green as a soiling crop. The seeds have long been used as one of the most important ingredients in commercial stock foods and for that purpose alone, thousands of tons are used annually in America. The oil compressed from the seed is one of the most useful vegetable oils and comes nearer than any other oil in taking the place of olive oil, having in general the same properties. The oil cake left after the oil is extracted, is rich in protein and equal in feeding value to linseed cake. In Russia, the akenes are sold and eaten much the same as peanuts are in this country, only more extensively. They are either eaten raw or roasted.

### Results Obtained at the College.

One and one-fourth acres were planted to Giant Russian sunflower on the College Farm during the 1918 season. The soil varied from a stiff clay to a sandy loam. In a few places in the field there were patches of Bermuda and Johnson grass. The field was broken with a lister, irrigated, rebroken and seeded to the Giant Russian Sunflowers in furrows at the rate of eight pounds to the acre. The resultant stand was exceptionally good. The sunflowers grew up very quickly and soon shaded the ground. Cultivation and irrigations followed as needed, but due to the rapid growth and the spreading of the branches of the young plants, only two cultivations were necessary. After the plants attained a height of four feet it was impossible for small weeds to get enough light for their development to any appreciable extent. The sunflowers were cut with a corn binder when they had reached about 80 per cent bloom, weighed and put in the silo. They were more difficult to handle than corn, but cut more easily and make an equal or better appearing ensilage. This feed was very readily eaten by cattle and sheep when fresh as well as after fermenting in the silo. A much larger tonnage of sunflowers can be put in an equal space in the silo than corn. The one and one-fourth acres of College land produced 49,960 pounds of ensilage in seventy days from seeding.

### Quality of Silage.

When the silo was opened eight months after filling, very little ensilage was decayed on top. The ensilage was very readily eaten by the College stock. The results produced were very satisfactory, altho slightly more sunflower ensilage than corn ensilage had to be fed, due to the greater moisture of this ensilage.

From the results obtained, it appears that sunflowers will make a very satisfactory emergency crop for ensilage and produce much larger yields than any other crop on our best lands. Where water has a tendency to stand, the sunflowers will die. The young plants are very tender, but after two or three feet in height is attained, few weeds will bother them.

### Analysis.

The following is the analysis of Russian sunflowers, as analyzed by Professor J. D. Hungerford of the Nutrition Department:

| | |
|---|---|
| Moisture | 81.67 |
| Ash | 2.30 |
| Protein | 1.19 |
| Fat | .81 |
| Fiber | 5.85 |
| Nitrogen free extract | 8.18 |

GEORGE R. QUESENBERRY.

## RECORD WHEAT CROP HARVESTED

New Mexico has just completed harvesting the largest wheat crop ever produced in the history of the state, according to the report of R. F. Hare of the bureau of crop estimates. Condition reports on all other crops, as well as on the ranges and live stock, also show a condition unsurpassed. Indications are that the August report for New Mexico will place her first among all the states in the splendid condition of her crops, ranges and live stock. This condition is most gratifying and encouraging to our stockmen and farmers.

While heavy losses have resulted from drouth in the North central and Northwestern states, and excessive rains and the ravages of the boll weevil are taking a heavy toll in the South, New Mexico is enjoying a period of unsurpassed prosperity from its bountiful harvests.

Estimates and forecasts of production based on condition August 1, are given below for all the principal crops of the State:

| | |
|---|---|
| Winter Wheat | 3,460,000 bu. |
| Spring wheat | 2,350,000 bu. |
| All wheat | 5,810,000 bu. |
| Corn | 5,428,000 bu. |
| Oats | 1,853,280 bu. |
| Barley | 529,000 bu. |
| Potatoes | 1,062,000 bu. |
| Rye | 182,000 bu. |

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There is no other agricultural activity that comes in as close touch with the farmers of the state as the farm bureau association. It is purely an organization of farmers for the benefit of farmers and advancement of the state agricultural interests.

# HOME ECONOMICS

## THE BUSINESS OF HOME MAKING.

The farm bureau stands for better crops, better livestock, better farms and better homes. Thousand of farmers have found that by giving time and attention to seed selection and cultivation they have been able to improve their chops from fifty to one hunderd per cent. They have found too, that the proper feeding and sheltering is increasing the value of their live stock in the same proportion.

They have been a little slow to realize that the same care and attention to matters pertaining to the home will produce an improvement in the home and living conditions to an even greater degree.

### The Master of the Home Should Take an Interest.

No one is more interested in the home or more affected by its efficient or inefficient management than is the master of that home. Yet he often fails to realize that the home is a business firm, composed at least of two partners, himself and wife, and as the children grow up, they too should be admitted to the firm and allowed to share the responsibilities and plan for the success of the institution. It is altogether too common to find the husband saying, "Oh, I don't bother about the things in the house, I leave all that to my wife." And when the wife is asked about the conveniences that would save steps and make her work easier or improve the sanitary conditions, thus safeguarding the health of the family, or about beautifying the home and making it so attractive that the young people will want to spend their leisure time there instead of on the streets in town or in some questionable place of amusement, her reply is usually "Yes, I know the kitchen needs to be rearranged and some new cupboards built in to take the place of that old pantry at the opposite end of the room. The living room needs to be refinished, the walls are dark and dingy and the house is damp and has a gloomy appearance but it takes all we can get to keep things running out of doors. He has to have so much equipment to do his work that there is nothing left for the home."

Now this is all wrong and is the result of "leaving everything to his wife" as he in such cases is not familiar enough with the home conditions to know the needs or how to meet them.

### The Two Partners Should Consult Together.

Where the two partners consult together frequently concerning the home both see the needs and usually the husband is the first to plan to provide for them. One home demonstration agent tells the following incident:

The family had been living in the dull, ugly, unattractive rooms ever since moving onto the place. The housewife was dissatisfied but thought the cost of remodeling more than could be afforded at the time, tho she wanted something done. She called on the home demonstration agent as a result one of the rooms was renewed by painting the woodwork a soft gray, the walls were covred with a light, attractive paper and fresh white curtains were put up at the windows. The room. was thus transformed at a small expense into a bright and attractive gathering place for the family. The housewife said her husband did not want to stay in any other room in the house now and they were planning to paint and paper the whole house soon.

### The Home is the Most Important American Institution.

The home is the most important of American institutions because it is producing the nation's most precious product, her citizens. If these citizens are to be healthful, happy human beings, capable of developing our nation to its highest degree, the home must minister to the needs of every individual member, physically, mentally, morally and spiritually.

The homemaker has to plan for providing the family with simple food that will nourish and develop the body rather than food that will appeal to the taste of each individual; clothing that will protect the body, be attractive and suitable to the occasion on which it is worn; shelter or a house that is sanitary, convenient to work in and attractive to live in.

### Provisions Must Be Made for the Higher Life.

Provision must also be made for the higher life of the family. Books, papers, magazines, music and social life must be provided for as these things cannot be neglected in the well regulated home that is seeking to develop its members into useful men and women. All this often has to be done on a very limited amount of money and it will necessitate the most careful planning on the part of the homemaker and this usually devolves on the housewife.

The farm bureau, with the aid of the home demonstration agent, whose work is not confined merely to cooking and canning, enables the homemakers to get together and make definite plans to meet the existing needs for improvement in the homes and living conditions in their community.

Some one has said "The woman who helps to build a home and creates in it such an atmosphere that under its influence little children grow up to healthy, happy, useful men and women, has done a piece of work that makes her rank second only to God as a creator."

MARY B. RICHARDSON.

# FARM BUREAU

### J. W. KNORR HEADS COUNTY AGENT FORCE.

J. W. Knorr, for nearly two years assistant county agent leader, and for the past year in charge of the farm bureau organization work, has been appointed county agent leader as successor to C. F. Monroe who becomes Director of Extension.

Mr. Knorr needs no introduction to New Mexico people. He was raised in New Mexico, is a graduate of the New Mexico Agricultural College, and for the past five years has been connected with the Extension Service. He was one of the first county agents to be appointed in New Mexico and for three years served as county agent of Eddy county. It was because of the efficient work that he did as a county agent that he was called to the state office two years ago. Before taking up the work in this state, he taught agriculture for one year in Colorado and spent one and a half year in Montana doing experimental work for the United States Department of Agriculture. He is probably better aquainted with New Mexico conditions than any other man on the Extension staff.

Mr. Knorr is a hustler. He is a good "mixer" and is highly esteemed by his associates. He is full of original ideas and is always ready to accept good ideas when presented by others. One of his outstanding pieces of work has been the organization of county farm bureaus thruout the state. Under his efficient direction the state is rapidly coming to the front in the matter of farm bureau organization. As a county agent leader, Mr. Knorr will be in a still better position to serve the best agricultural interests of the state.

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### COMMUNITY DIPPING VATS ARE BUILT IN LUNA COUNTY.

A notable example of community effort can be found in Luna County. Mr. A. C. Heyman county agent spent some time of the past summer talking community dipping vats. As a result one was built at Capital Dome. Twenty eight farmers representing an ownership of 1648 head of cattle prorated the cost. In addition 17 others owning 228 head of cattle used the vat, paying 25c per head for the dipping privilege. Several other community vats have been built in Luna county but for which complete figures are not as yet available.

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### Quay County Farm Bureau Solves Labor Problem.

The Quay County Farm Bureau has been able to handle a serious labor shortage during the recent harvest thru the efficient work of Mr. S. A. Steffian, Executive Committeeman in charge of the labor project. By appointing a labor captain for each section of the county and taking a labor census, then using the captains in shifting the labor from points that were oversupplied to points where it was needed a critical situation was relieved.

# CLUB WORK

## STATE COLLEGE SCHOLARSHIP OFFERED TO BOYS' AND GIRLS' CLUB MEMBERS.

### Boys' and Girls' to Receive Free Tuition for Four Years at State College.

The New Mexico College of Agriculture and Mechanic Arts, has adopted a plan whereby all boys and girls in the state who have been club members for four years and who have met certain club requirements and completed their high school work, will be given their matriculation fee for a period of four years.

It is a known fact that the boys and girls over the entire state who have been in club work for the past several years, have been doing work of a type deserving of recognition in an educational way. They have produced thousands of dollars worth of food each year and in addition to having helped win the war, have learned many things about agriculture and home making for which they have never received due consideration.

The big aim in club work is "ACHIEVEMENT" and this means the doing well, of a certain defined piece of work. When boys or girls have done something worth while and have done it in a credible manner they should have all the encouragement possible from their parents, and other persons interested in the education of the younger generation. It was with this view in mind that a set of simple rules were adopted which every American boy and girl can live up to, and thus help himself or herself get a higher education.

### State College Boys' and Girls' Club Scholarship.

OBJECT—To stimulate interest among the boys' and girls' club members in the state and to encourage them to remain in club work at least four years. To encourage them to attend the New Mexico College of Agriculture and Mechanic Arts for advanced training in any line of work which they choose to take, after they have completed their high school work.

REQUIREMENTS—1. The boy or girl must have been a member of a Standard Club.

**Rules for a Standard Club:**

1. A Standard Club shall have a membership of at least five working on the same project.
2. There shall be a local leader in charge during the year.
3. There shall be a local club organization with the necessary officers and duties.
4. There shall be a definite club year program of work.
5. There shall be held at least six regular meetings during the club year. The secretary shall be required to keep definite record of these meetings and also of the progress of each member.
6. A local exhibit shall be held annually.
7. There shall be a demonstration team which must give at least one public demonstration in the community.
8. At least 60% of the members must complete the project and file a final report with the State Club Leader.
9. A judging team shall be chosen by competition between the members.
10. An achievement day shall be held during the club year.
11. The club shall hold a membership in the farm bureau or other county club organization.
12. Note: When the first four requirements have been met it will be recommended that a Standard Club Charter be issued. When all the requirements have been met, a National Seal of Achievement will be awarded.

2. Shall have been a member of a demonstration team and have given at least one public demonstration, or have given individually one public demonstration in the community.
3. Shall have completed a minimum of four years in club work and two consecutive years shall have been in the same project.
4. Should preferably be a high school graduate.
5. Must have written statement signed by a parent or guardian, local club leader, county agent, home demonstration agent, or county club leader and two business men, showing that they are justly entitled to this scholarship.

PLAN—When the above requirements have been met, the boy or girl will be awarded a scholarship certificate which carries with it a value amounting to the matriculation fees for each of four consecutive years at the New Mexico College of Agriculture and Mechanic Arts.

In case the person does not use the certificate within two years after the date of issue, it becomes void.

# STATE
# FARM BUREAU CAMPAIGN

**November 28th to December 13th, 1919**

During this campaign the farm bureaus in New Mexico will reorganize their programs of work for 1920 and renew and increase their memberships. During this campaign the **present membership of 3000 will be increased to 7500, if possible.**

Plans are already under way in most of the counties having farm bureaus for this big campaign.

This campaign will end on

## Saturday, December 13th

which will be

## State Farm Bureau Day

when the farm bureaus will hold their county-wide meetings and perfect their programs and select officers and members of the executive committee for 1920.

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# THE NEW MEXICO FARM COURIER

JAN 16 1920

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Roosevelt County Farm Bureau Executive Committee.

Published Monthly by the Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M., and United States Department of Agriculture, Cooperating.

# THE NEW MEXICO FARM COURIER

Published monthly by the New Mexico College of Agriculture and Mechanic Arts and sent free of charge to residents of New Mexico on application.

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FABIAN GARCIA, Director of Experiment Station.
A. C. COOLEY, Director of Extension.

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County Agricultural Agent Work.

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H. C. Stewart, Bernalillo Co., Albuquerque.
J. R. Thomas, Chaves Co., Roswell.
W. H. Sawhill, Colfax Co., Raton.
E. Peterson, Curry Co., Clovis.
L. P. Briggs, De Baca Co., Fort Sumner.
G. M. Clark, Dona Ana Co., Las Cruces.
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Stuart Stirling, Lincoln Co., Carrizozo.
A. C. Heyman, Luna Co., Deming.
H. P. Powers, McKinley Co., Gallup.
Serafin Abeyta, Mora Co., Mora.
Leslie Beaty, Otero Co., Alamogordo.
E. M. Yates, Quay Co., Tucumcari.
T. M. Pacheco, Rio Arriba, Tierra Amarilla.
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Eliseo C. Gonzales, Sandoval Co., Bernalillo.
J. M. Ramirez, Santa Fe Co., Santa Fe.
H. S. Moles, San Juan Co., Aztec.
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H. M. Aragon. Taos Co., Taos.
J. G. Hamilton, Torrance Co., Estancia.
Orren Beaty, Union Co., Clayton.
R. S. Conroy, Valencia Co., Los Lunas.

**State Extension Specialists—State College.**

Dr. E. P. Johnson, Veterinarian.
C. A. McNabb, Marketing.

**Boys' and Girls' Club Work—State College.**

Robert Foster, State Leader.
W. T. Conway, Canning and Drying.
Elizabeth Koger, Assistant Leader.

County Home Demonstration Work.

Mary B. Richardson, State Leader, State College.
Lucille Woodard, Chaves Co., Roswell.
Sarah Van Vleck, Doña Ana Co., Las Cruces
Edith M. Hurley, Union Co., Clayton.

# EDITORIALS

BY PRESIDENT CRILE

## THE FARM BUREAU

To strike is not one of the objects of the farm bureau. If the farmer should strike, he would likely hit himself; yet the farmer should organize, for his economic advantage, and the campaign that is now set on in New Mexico, to organize farm bureaus, has in its object the problem of working out a program of production and marketing that shall yield the maximum returns in the state. The plan is to have an organization in each county, which organization may be incorporated according to the laws of the state, and may serve as an agency to effect marketing, or, in certain instances, the purchasing of supplies, by the farmers and stockmen of the county. The counties which have farm bureau organizations will then be called into conference, and we will organize a state-wide farm bureau, which should hold its meetings at the State College. The time has not yet been established, but at the most opportune time during the winter all the county agents, officers of the farm bureaus and others who will be so good as to attend, will hold a meeting and then we can effect a state-wide organization.

The farm bureau ought to be of very substantial service to farm life and money-making on the farm in New Mexico—not a "cure all." Let us not become so enthusiastic, in the organization of a farm bureau, that we expect that all we have to do is to form the organization, elect officers, appoint committees and then all go home, and there will be some magic hand operating in the community to bring about wholesome results, just because there is an organization called the farm bureau. You can only get out of a farm bureau the efforts that you put in; except that as you put them in as individuals they will come out standardized, with more efficiency. Just remember that "if every member of my farm bureau were just like me, what kind of a farm bureau my farm bureau would be." If you do not help, lend suggestions and give some time and energy to the affairs of the farm bureau, you should not expect to take many benefits from it.

### THE NEW SCHOOL YEAR.

It certainly will be gratifying to our readers to know that we have begun the school year of 1919-1920 with an enrollment which has almost reached the 400 mark. The State College has certain reasons to be proud of its student body. It is composed of mature, strong-looking men and women. The campus is beautiful, the livestock abundant, the equipment in all the buildings excellent; very fine, so far, but we do not have sufficient funds to make proper dormitories and the extended recitation rooms that this large attendance demands. If I am not mistaken, this is the largest enrollment that there has ever been in any of the schools of higher education in New Mexico, and marks the high tide of our educational work in the state.

The work that is done here is thoro in its quality and practical in its results. The cost per student, for the education of these four hundred young men and women—and their training should mean a good deal toward the progress of the state—is considerably less than six or eight years ago; in spite of the fact that the price of nearly everything has doubled or trebled in that time.

We feel very happy, indeed at the results which we have gotten and the outlook for the school.

### REGISTERED STOCK FOR SALE

The Agriculture College offers the following:

2 Aberdeen-Angus Cows at $150.00 and $200.00 and a few choice bull and heifer calves of this breed at $125.00 to $150.00.

3 excellent Hereford heifer calves; daughters of Plato Perfect No. 645241 at $200.00 to $250.00.

3 short horn calves at $125.00 to $150.00.

Also Duroc-Jersey pigs and bred gilts.

For further information address
President A. D. CRILE,
State College, N. Mex.

### SENATOR JONES HAS SEED FOR DISTRIBUTION

The following letter was recently received from Senator A. A. Jones and is self-explanatory:

Washington, D. C., Oct. 11, 1919.
Farm Courier,
State College, New Mexico.
Gentlemen:

The Department of Agriculture has alloted to me for New Mexico a large number of vegetable and a smaller number of flower seeds which I will be pleased to send to those who request me that they desire same. Will you please give publicity to this effect.

Thanking you for the courtesy, I am
Yours very truly
A. A. JONES, U. S. S.

### Twelve Things To Remember.

The value of time.
The success of perseverance.
The pleasure of working.
The dignity of simplicity.
The worth of character.
The power of kindness.
The influence of example.
The obligation of duty.
The wisdom of economy.
The virtue of patience.
The improvement of talent.
The joy of originating.

Some folks are locomotives and some are freight cars in the train of community activity. Farm bureau members are usually locomotives.

One benefit of farm book-keeping: It saves dollars by presenting a full income tax report.

One benefit of farm book-keeping: Profitable changes can be made in plans, based on accurate farm figures.

As a quick meat producer, the chicken will run the pig a closer race for first place.

The average dairy cow makes dairying unprofitable, it's the better-than-the-average cow that pays.

It's better for everyone concerned to let the slacker cow feed someone as beef than for the farmer to feed her.

# THE BIG THINGS DONE BY THE FARM BUREAUS OF NEW MEXICO

## ALL INDUSTRIES IN THE STATE BENEFITED BY THEIR WORK.

### Have Solved Marketing Problems; Assisted in Savings Amounting to $1,000,000, Through Eradication of Prairie Dogs; Built 50 Miles of Rural Telephone Lines; Secured $3,000,000.00 for Drainage Work; Constructed 37 Community Dipping Vats; Distributed Almost 2,000,000 Pounds of Improved Seed; and Now Have Under Way the Federation of One of the Strongest Farmers' and Stockmens' Organizations in the Southwest.

The progress made by farm bureaus in New Mexico excels the greatest hopes and expectations ever held by those who fostered the movement a few years ago.

In all parts of the state the farm bureau today stands as a potent factor in rural life, organizing the business of farming so that it will pay.

Big things have been accomplished which have not only benefited agriculture but all other industries of the state as well. This benefit has been felt already as indicated by the manner in which men in all lines of business are getting behind the movement and offering their support to the many lines of work under way.

A movement is now on foot to federate the eighteen county farm bureaus into a State Farm Bureau which in turn will be federated with the National Farm Bureau. This will be one of the largest and strongest organizations in the Southwest and it will have a tremendous influence upon the rapid agricultural development that is now going on in New Mexico.

A wide variety of big things have already been accomplished. A few of these accomplishments are given in this article.

#### Solves Marketing Problems.

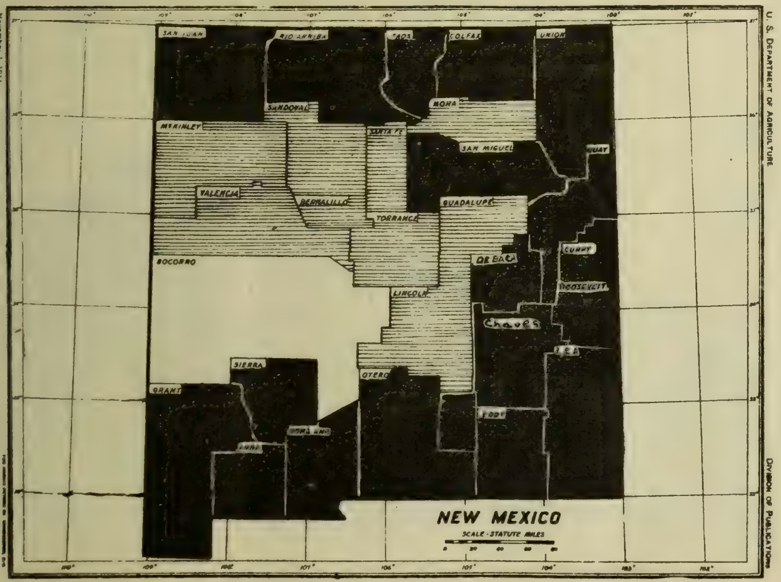
The marketing of crops and livestock is one of the hardest problems the farm bureau has to meet. Invariably it is the first job presented to a farm bureau. In a majority of cases the job must go back to the production end, in order to get a uniform, standardized commodity for the market. Where the production end is satisfactory the farm bureau can bring about a proper marketing organization. For example, this year the Roosevelt County Farm Bureau had to handle the sweet potato marketing situation at once. The Portales valley has become famous for its sweet potatoes. Many farmers are going into the growing of that crop. In order to stabilize the selling, and place on the market a uniform product the farm bureau got the sweet potato growers together into an association.

The Portales Valley Sweet Potato Growers Association, incorporated under the laws of the state and governed now by its own officers has contracted for the erection of two potato curing and storage houses with a combined capacity of 34,000 bushels. They have a paid manager and have ordered two carloads of box material and other necessary supplies. The regulations of the association with reference to the kind and quality of potatoes are most rigid, but none too rigid to establish an enviable reputation for Portales valley sweet potatoes.

The Dona Ana County Farm Bureau got 25 farmers together and perfected the Mesilla Valley Sweet Potato Growers' Association. They agreed to cooperate with Crombie and Company of El Paso and this company now has under construction a curing and storage house which will hold 15,000 bushels of sweet potatoes.

Last year the Dona Ana County

Farm Bureau got the cabbage growers of the county together and organized the Mesilla Valley Cabbage Growers' Association. This year 80 carloads of cabbage were shipped by the association. Crombie and Company of El Paso handled most of the crop. As a result of the handling of cabbage and sweet potatoes in Dona Ana county, Crombie and Company has established a branch house at Las Cruces, and thru this house over 25 carloads of mixed fruit and vegetables were marketed. Practically all of this miscellaneous stuff would have been wasted without this concern on the ground. This traces back to the farm bureau activities in developing the cabbage and sweet potato industries in the Mesilla valley.



Counties having Farm Bureaus, November, 1919, in black; those having County Agents but no Farm Bureaus, cross-lined; those without either Farm Bureaus or County Agents, white.

### Fruit Marketing Job in San Juan County Worth $18,750.

The San Juan County Farm Bureau invited a representative of the North American Fruit Exchange into the county to examine the fruit crop. In June this man offered $1.00 a box, tree run, and agreed to furnish his own packers and boxes. This was 25 cents higher than any other bid at that time. This is the first year that a price at all satisfactory has been realized by the growers and this was done through farm bureau effort. This price affects something like 150 carloads of apples that will be shipped out this year bringing $18,750 more to the growers than they had hoped for.

The De Baca County Farm Bureau secured a market for seven carloads of apples. The Roosevelt County Farm Bureau found a market for several carloads.

### Prairie Dog Control on Over 2,000,000 Acres.

Cooperation between the Extension Service and the State Council of Defense with U. S. Biological Survey has resulted, since April 1918, in the treatment of 2,209,860 acres of prairie dog infested lands in all parts of the state.

Protection has been given in this work to 285,623 acres of crops.

Certain large agricultural valleys and extensive units of range lands have been practically cleared of the pest, and absolute extermination has been accomplished over large areas.

Net savings resulting to agricultural and live stock interests in the state from this work, as represented by definite statistics, are upwards of one million dollars.

No greater and more direct savings or greater returns for investment can be made than through elimination of the prairie dog pest.

Much of the local organization for this work has been effected by county agents through the farm bureaus. In the highly systematized work aimed at completion within the next few years of this important economic project, even greater dependence is to be placed on assistance by these farm bureaus.

UNLOADING CABBAGE AT PACKING SHED.
Eighty Carloads of Cabbage Were Marketed by the Mesilla Valley Cabbage Growers Association

### One Farm Bureau to Build Fifty Miles of Telephone.

Fifty miles of standard telephone line, costing $10,000 will soon be under construction in Curry county. The money is ready and all arrangements are practically completed. The main line will connect with the towns of Ranchvale, Pleasant Hill, Claud, Hollene, Grady, Bellview, Field and other points. This will make it possible for any farmer in Curry county to have a telephone in his home. Some preliminary work on telephone lines has already been done by the De Baca and Union county farm bureaus.

### Irrigation and Drainage.

The necessity for drainage in Dona Ana county was first recognized by the farm bureau. The agricultural lands were fast becoming waterlogged thru lack of drainage facilities and by over-irrigation thru an antiquated distribution system. In order to bring about the installation of an adequate drainage system and a modern irrigation system it was necessary to convince eighty per cent of the land owners that they would be ruined if this was not done.

The farm bureau instantly incurred the opposition of many old timers and men who had no faith in the U. S. Reclamation Service and who decided that their vital rights were being attacked and they would not stand for the change. The farm bureau took the "bull by the horns" and at the suggestion of the U. S. Reclamation Service took immediate steps to form an irrigation district, the formation of which required eighty per cent of the people to favor it and at the same time assured a drainage and irrigation system being installed. After a strenuous two weeks campaign these things were accomplished and the U. S. Reclamation Service appropriated three million dollars for the work, and today this work it fifty per cent completed, and the strongest opposers are now convinced that the drainage system is a great success.

Failure of Congress to provide sufficient funds to carry on this work seriously affected its progress and two of the most efficient dredges digging the drainage canals were ordered out of Dona Ana county to Arizona where funds were available.

Dona Ana County Farm Bureau immediately took action and the county agent with a representative of the irrigation district went among the farmers and took their notes for $60,000, after which they met with the banks of the El Paso Clearing House and told their story. By a unanimous resolution of the El Paso banks they decided to take the farmer's notes as collateral on a loan and furnish the necessary money to hold the dredges in Dona Ana county. Also the Las Cruces banks were very liberal in supporting this movement with their funds.

Nothing is too big for a farm bureau to handle.

The Luna County Farm Bureau has a movement on foot to secure electric power from the Elephant Butte Dam with which to operate the numerous pumping plants in vicinity of Deming.

Should this be accomplished the cost of operating the pumping plants would not only be materially reduced but thousands of acres of the very choicest land would be brought into cultivation.

The Sierra County Farm Bureau is now working on a high-line canal proposition with the U. S. Reclamation Service that, when realized, will add approximately 10,000 acres of irrigated land to the county.

**Treating Grain for Smut Demonstration in Curry County.**

### Cooperative Purchases.

In some instances the farm bureaus have encouraged farmers to pool their orders for various supplies such as cement, bale-ties, farm seeds, spraying materials, binding twine, vaccines and apple boxes. This work has been done mostly by the Eddy, San Juan, Roosevelt and Union county farm bureaus and has resulted in a saving of approximately $10,000 this year. Such cooperative purchases have been for the most part with local merchants. The different deals have been on a cash basis with great satisfaction to both parties.

Fifty pressure cookers were purchased for women in Dona Ana county at a 25 per cent discount, saving $225.

The Farmers' Exchange of Las Vegas was developed to handle cooperative shipments of feed-stuffs for the stockmen of San Miguel county. During the past winter it handled 27 cars of cottonseed cake, 51 cars of alfalfa and straw and 94 cars of miscellaneous feed-stuffs. This feed was handled in a very prompt manner and enabled the stockmen to save many of their stock at a time when feed was scarce and the ground covered with snow. The total amount saved by the Farmers Exchange was $16,170.

### Farm Labor Handled In Quay County.

By having a labor foreman in each community Quay county was able to transfer labor from one section to another during the harvest season this summer and handle the biggest crop of wheat and other small grains ever grown on the plains section. Thousands of dollars worth of grain would have been wasted had it not been for the splendid manner in which the Quay County Farm Bureau procured the necessary labor and got it to places where needed.

### Dairying Stimulated by Farm Bureaus.

The Union County Farm Bureau has done the biggest work in increasing the dairy industry in New Mexico. It has the distinction of having the largest dairy calf club in the United States with 109 members. Chaves county has 22 members in a dairy calf club. Five Farm bureaus—Dona Ana, San Miguel, Union, Chaves and Otero —shipped in 378 head of high grade and registered dairy calves, cows and bulls mostly Holsteins with a few Jerseys.

### Conduct Silo Campaigns.

Twelve farm bureaus pushed silos this year with the result that 107 have been built. The Quay County Farm Bureau leads with 35 pit silos to its credit.

### 1,790,250 Pounds Improved Seed Distributed.

Practically every farm bureau in the state has rendered a big service to farmers in the matter of locating and importing high quality seed. Since the fall of 1918, eight farm bureaus have distributed a total of 1,790,250 pounds of various kinds of farm seeds.

### Conduct Campaigns to Control Smut.

Several farm bureaus, especially San Miguel, Curry, and Quay counties, have done big work in smut control. Very noticeable results were obtained by the Curry County Farm Bureau as indicated from their report which is given herewith: "Due to the efforts of the farm bureau 75 per cent of the seed wheat planted in Curry county last fall was treated for smut. As a result 75 per cent of the wheat crop is free from smut, saving to the farmers fully $75,000, and the wheat is topping the market. Arrangements have been made to get formaldehyde at 25 cents a pint this year, thus affecting a saving to the farmers and encouraging more to treat. We expect that fully 90 per cent of the farmers will treat their seed this fall. Mr. J. M. Teague treated part of his seed last fall and left part untreated. For the grain produced from the treated seed he obtained the highest price here this year—$2.05 per bushel, and it weighed 61 pounds per bushel. For the untreated grain he received $2.00 to $2.02 per bushel. Mr. Teague says it pays to treat. Wheat growers from all parts of the county tell the same story.

"Just as gratifying results, tho not so extensive, have been obtained from treating the grain sorghums for smut. Mr. C. C. Morris saved $480 on eighteen acres of broom corn by treating last year. The practice of treating grain sorghums is now common in the Enterprise district and is spreading to all parts of the county. Twenty demonstrators located in various parts of the county are reporting great results from the treatment this year. Fully 60,000 bushels of the grain sorghums can be saved annually by the proper treatment of the seed."

### Picnics and Community Fairs.

While it may be difficult to measure in dollars and cents the value of farmers' picnics and community fairs and exhibits, still activities along these lines are most valuable. During the past summer the San Juan, Colfax and Curry county farm bureaus had big picnics. Over 3000 farmers and stockmen in San Juan county "took in" the farm bureau picnic on July fourth. On the same day 2000 farmers in Curry county had a picnic.

Agricultural exhibits have been fostered and encouraged by the Rio Arriba, Luna, Quay, Chaves and Curry county farm bureaus. On occasions of this kind the rural people have opportunity to come in contact with each other. They become familiar with the agricultural activities in all parts of their county. They learn from exhibits how the quality of their produce compares with that of their neighbors. Such work develops a community spirit which is in back of any kind of work undertaken by a farm bureau. Without this kindred spirit the rural people will continue in their own individual ways facing, for years to come, the big problems that stand in the way of making more money on the farms, of having better homes, better schools and all other rural necessities. So the picnic, the community and county fairs and the annual farm bureau meetings bring the rural people together in such a manner as to create a proper atmosphere for real cooperative work along different lines according to community and county needs.

Chaves County Farm Bureau Executive Committee

**Soil Fertility Problems.**

In Eddy county the use of acid phosphate has been greatly increased. Demonstrations in the Atoka district on 2000 acres of choice alfalfa land indicate that an application of from 200 to 250 pounds of acid phosphate (16 per cent) per acre will increase the yield about one ton per acre annually. Demonstrations with acid phosphate affecting a considerable acreage of cotton on the Carlsbad Reclamation Project, are being conducted this year. The Chaves County Farm Bureau is also conducting demonstrations with acid phosphate on alfalfa. The introduction of legumes in the dry farming section of the state is being pushed, especially by the Union and Curry county farm bureaus.

In Dona Ana County, thru farm bureau effort, 30 car loads of manure were shipped in from Fort Bliss, Texas, last spring and used by truck growers. A freight reduction of 33 per cent was secured by the organization on manure shipments and fully 500 carloads will be brought in this winter.

**Influencing Legislation.**

At the last session of the New Mexico Legislature a bill was presented by a representative of Dona Ana county which met with strong opposition in the Legislature. Upon learning of this, the farm bureau sent their manager to Santa Fe, who with the loyal cooperation of the representative of Dona Ana county, succeeded in changing the opinion of the State Legislature so that the bill passed unanimously and is now a law in effective operation.

The operation of this bill forces the owners of large tracts of idle land to pay each year a minimum tax for the operation and maintenance of drainage and irrigation works within the district whether they use water or not. The effect of this law is that the nonresident land owners who have been holding land for speculation and thus retarding progress in agriculture are gradually selling their land holdings at a fair price and real farmers are being induced to locate in Dona Ana county.

### Crops Standardized.

The standardization and elimination of inferior varieties of various farm crops are being handled by several farm bureaus. Variety test demonstrations are held to see which varieties are best adapted. This work includes such crops as potatoes, corn, wheat and beans.

In San Miguel county the farmers were growing 30 different varieties of corn in 1915. In 1919 only three varieties are used, according to altitude in various parts of the county.

In San Juan county the farm bureau found that 23 different varieties of corn were being grown. Today only two—white capped yellow dent and Reed's yellow dent—are being raised. Corn shows are held in San Juan county by the farm bureau sometime during the winter and yields of from 95 to 100 bushels per acre are not uncommon now.

In 1918 the average yield of corn was increased 5 bushels to the acre. This one piece of work was worth $65,000 to San Juan county corn growers.

### Poultry Improvement.

The women of Chaves county have been doing considerable poultry improvement work as a part of the farm bureau program. They conducted the first "Swat the Rooster" campaign ever held in the state last May. About 200 roosters were collected in four communities and sold to local commission merchants. Perhaps as many more were swatted for home consumption at the same time. This work resulted in a much larger production of infertile eggs.

In Dona Ana county the Mesilla Valley Poultry Association has developed a splendid market for eggs. This organization is made up of 27 women. During the 18 months of its existence it has sold over $14,000 worth of eggs.

The results of such cooperative work have been far reaching. The producer determines the price of eggs rather than to take whatever is offered. In other sections of Dona Ana county eight community egg-circles have been developed, which are now pooling their eggs and shipping same into El Paso in case lots. All this has resulted from the successes of the Poultry Association which was fostered and guided by the farm bureau. Poultry culling demonstrations have been held in several counties. The farm bureaus were aided by Professor R. B. Thompson, poultryman, of the Agricultural College, in these demonstrations.

### Community Dipping Vats.

Thirty-seven community dipping vats have been built in six counties as a result of farm bureau effort. Luna county leads in this work with 20 vats completed. One of these vats in the Capitol Dome community served 46 farmers and small stockmen in the dipping of 1876 head of cattle. Twenty eight out of the 46 built the vat while the other 18 used the vat on a rental basis. The building of dipping vats was augmented considerably by the passage of orders making dipping compulsory this season. However, such situations are handled more easily thru the farm bureau as it gets the people together in a way that would be impossible without the organization.

### Taxation Investigations.

The Dona Ana County Farm Bureau among its many activities publishes a monthly paper "Organized Farming." The executive committee of the farm bureau decided that they should, from time to time, investigate taxation matters in the county and if any irregularities were found should publish such in "Organized Farming." Recently they found where a number of large land owners had asked to have their taxes compromised. The farm bureau officials not agreeing with those in favor of such action investigated and gave it wide publicity in Organized Farming. It resulted in a meeting of the county commissioners who unanimously supported the action of the farm bureau and passed a resolution that no taxes could be compromised without their consent and pledged themselves to cooperate with the policies of the farm bureau. The result of this taxation publicity has been a saving of many thousand dollars to Dona Ana county.

### Many Miscellaneous Jobs Handled.

In addition to the big jobs, the Farm Bureaus have handled a wide variety of miscellaneous items. In San Juan county $10,000 worth of registered sheep have been purchased for breeders. In several counties, especially San Juan, thousands of dollars worth of crops have been saved from the ravages of grasshoppers by systematic, cooperative work outlined by the farm bureaus. Spraying demonstrations have resulted in the production of high quality fruit instead of wormy and inferior stuff.

### Lots of Work Yet to be Done.

The farm bureaus in New Mexico are just beginning to accomplish big things. There is lots to be done. As the farm bureau organizations continue in existence, more and more will the rural people look to them for the solution of their problems. This is very evident in Dona Ana county which has the oldest farm bureau organization in the state. It has organized the business of farming in Dona Ana county, and all interests conflicting with farming have to go up against the farm bureau for proper adjustment. The people of the county not only look to the farm bureau but have come to place absolute dependence upon it for the proper guidance of all their future agricultural activities.

The greatest assurance that the farm bureaus in the state have for their future success, lies in the fact that the most successful farmers and stockmen of each county are in the organizations. Their judgment and experience is in back of all farm bureau activities. These men have the confidence of the rural people who are willing to abide by their actions. The farm bureaus in New Mexico have come to stay.

### Reorganization Campaign Nov. 28—Dec. 13.

From November 28 to December 13, the farm bureau will reorganize their work for 1920. Definite lines of work will be outlined at that time. While the results thus far obtained have been more than satisfactory, still bigger jobs will be tackled next year. During the time of this campaign, a membership drive will be conducted to increase the present membership of 3,000 to 7,000.

J. W. KNORR.

# WHAT THE FARM BUREAU MEANS TO WOMEN

### Work Already Accomplished by Women.

That the farm bureau is an organization for helping women as well as men is shown by an article on another page in this issue of the "Courier." It will be noticed that a number of the subjects on the program of work are those in which women are especially interested.

### Women do Cooperative Buying.

As an illustration of cooperative buying the women of Dona Ana county have bought fifty steam pressure cookers and by ordering them in lots of six or more have been able to obtain them at a discount of twenty-five per cent. Thus a saving of $225 has been effected on the cost of fifty cookers. As the toughest of meats or chicken can be cooked tender in thirty minutes, beans can be thoroly cooked in thirty to forty minutes and an entire meal for a family of six can be cooked in the cooker in thirty minutes, it is readily seen that a great saving of fuel, time and dishwashing is the result. One woman said "No kitchen is complete without a pressure cooker."

### Profits are Made in Poultry.

In the article referred to above, will be noted the work done with poultry by the women of Chaves and Dona Ana counties. In the "Swat the Rooster" campaign, carried on by the women of the first county at the beginning of the egg producing season, the women sold or killed and canned the roosters of their flocks thus producing infertile eggs which keep well during hot weather. By this means thousands of eggs are saved during the season which would otherwise be lost. Besides, a good supply of canned meat is stored for winter.

A series of culling demonstrations was also carried on, the aim being to cull from the flock all the hens that were not good egg producers. This will reduce the cost of egg production as it costs as much to keep a non-producing hen as it does a good layer.

In Dona Ana county twenty-seven women organized the Mesilla Valley Poultry Association and sold $14,000 worth of eggs during eighteen months. Eight circles were formed where the farmers wives are pooling their eggs and making case lot shipments.

**Home Demonstration Agent in Dona Ana County Assisting in the Installation of an Iceless Refrigerator on Outside of Pantry Window.**

### Saves Food and Steps.

In Dona Ana county five iceless refrigerators have been installed as a result of one which was placed in one home in the community. These refrigerators are reported a great success by their owners. One woman has placed hers outside the pantry window so it is reached from the inside thru the open window. This saves many steps on a busy day.

### Hot Lunch is Provided for School Children.

Hot lunches have been installed in five rural schools in Dona Ana county. The women of the community are planning to raise money for the supplies by giving some form of entertainment.

### Clothing is Remodeled, and Rugs Made

The women of Dona Ana county have been meeting in groups and making over garments. These groups meet in the homes and sew for the hostess wherever the meeting is held.

Garments that are too much worn to be remade are torn and sewed into rags and woven into rugs. A woman was found who would furnish the warp and weave these rugs at a small cost. She has been kept so busy that she has to turn away work and they are now looking for another woman to assist in the work. Some of the rags have been colored and very beautiful rugs have been the results in homes where rugs could not have been purchased at the present prices.

### Destruction of Flies Prevents Spread of Disease.

Fly campaigns were put on for the destruction of flies in Colfax and Chaves counties. In the latter county the children were interested in the work. The women raised funds and the children were paid ten cents a quart for the flies brought in. These were measured and paid for by a committee in Roswell. The women reported that the flies were noticeably less in the city than ever before. Flies are an important factor in spreading disease and their presence is a menace to the health of any community.

### Balanced Meals are Provided for the Family.

In Union county in connection with the gardening and canning projects, the problem of furnishing simple, nourishing food for the family, especially the use of milk for children, has been taken up and the balanced meal emphasized. It has been discovered that proper food will do as much for the human being as it does for hogs and cattle.

### Possibilities for the Future are Great.

In addition to the foregoing, any of the following projects may be selected by the women of a county and made a part of the farm bureau program.

Work showing the care and preparation of the sick room, bed making, changing sheets with patient in bed, bathing patient, and feeding the sick.

The use of such simple and inexpensive articles as will economize the time, strength, energy and money of the housewife.

Making the house comfortable, sanitary, convenient and attractive, so all members of the family will enjoy the home. Embraces such problems as floors, floor coverings, walls and their treatment, selection of wall paper, curtains, draperies and furniture. All problems can be solved in a simple and inexpensive manner by careful selection and refinishing of old furniture by the most satisfactory methods.

The planning and arranging of the kitchen so that steps may be saved, the work done in less time and the drudgery of housework eliminated.

The selection, making, care, cleaning and remodeling of the family clothing in these days of high prices is a very important part of the housewife's duties, also the use of the sewing machine attachments and short cuts in sewing for the busy woman.

The limited amount of money that most of the families have to spend on the home make it necessary to do the most careful planning in order that the needs of the family may be met as to food, clothing, shelter, education, recreation, social and spiritual life. People are coming to know that a large amount of money is not necessary to enable one to live well, but that the careful planning, study of conditions, materials and social life **IS necessary** and the door of the farm bureau stands open to those who want to solve the problem of a better child, a happy useful manhood and womanhood, a contented, useful old age, a better community and a better nation.

MARY B. RICHARDSON.

# A PLACE FOR THE BOY AND GIRL IN THE FAMILY FARM BUREAU.

By W. T. CONWAY.

The biggest and best crop grown in any man's country is the crop of boys and girls. The farm bureau recognizes this important fact and takes in the boys' and girls' club work, making it a part of the great plan of the farm bureau activities. The boys and girls are tackling their jobs like men and women and proving themselves worthy of a place in the farm bureau.

When better and bigger crops are wanted, the bean clubs, corn clubs, potato clubs, sorghum clubs, small grain clubs, etc. etc., are set to work on seed selection, better methods of cultivation, cost accounting and other features of crop production and crop improvement work. These club projects are carefully worked out, faithful records are kept and products are exhibited at the close of the season—all of which demonstrates accurately and conclusively just what the farm bureau wants its members to know.

Where the community interest demands the improvement of its live stock there is the pig club member with his pure-bred sow to increase the quantity and quality of pork and bacon, the poultry club member with her standard-bred flock to make more meat and eggs for less money, the calf club member with his or her high-grade or pure-bred heifer to grow into a producing dairy cow with better calves, more milk, and richer butter fat. Whatever the line of improvement, the boys and girls are right there with the goods.

If it is to swat the profiteer and lower the high cost of better living, the boys and girls come forward with their garden and canning clubs, buck the game and do the job. They make their tables groan under the weight and abundance of fresh vegetables for winter which banish the thought of hunger while the family revels in peace, plenty and prosperity. A good living made at home is worth a half-dozen starvations bought out of any store. The club boys and girls are fast learning this great lesson of living at home.

Should a better food and clothing campaign claim the attention of the farm women that section of the farm bureau proceeds to organize the cooking and sewing clubs among the girls who prepare the meals and work the left-overs into new palatable dishes and who make and mend their wearing apparel, materially lightening the burdens of their mothers. Thus the home educated head and hand tends to make a happy heart and leads to health and efficiency.

Whatever the phase of community interest, spirit or improvement, the boys and girls clubs play an important part in the role of its development. The farm bureau in every community should make the proper use of this great factor, not only for the sake of better crops and more money but for the purpose of creating a wholesome environment for the growth of our boys and girls and the best possible opportunity for self-educational development.

The club work is no new-fangled fad or notion but a real, every-day, practical part of farm and home life. The club boy or girl works out his or her club project by methods based on sound, scientific principles, keeping strict account of the cost of production and the value of the product. The very nature of the club work, its purpose and the results that come out of it, makes it an important factor in the kind and development of a county farm bureau program. The ultimate end and aim of the farmer and his wife is that their children grow up to live lives of usefulness and efficiency, to be well versed in the best methods and management of home life and to be loyal to all that is honest, good and true and that makes for constructive leadership and honored citizenship. The club work will help in this kind of a practical education. As a part of the farm bureau, the club work will help and does help every community in its best present development and will assist the community in attaining its highest aim for the future. Then give the boys' and girls' club work a place in the program and your farm bureau family circle will be complete.

**Club Members Harvesting Beans in Colfax County**

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A productive orchard, a good garden, laying hens, and sows which pay their board will help to make any farm a desirable farm.

## DIRECTORY OF FARM AND LIVESTOCK BUREAUS IN NEW MEXICO

| County | President | Vice Pres. | Secretary | Treasurer | Members of Executive Committee | County Agent |
|---|---|---|---|---|---|---|
| Chaves | M. Y. Monical<br>Hagerman | Meldrum Gray<br>Roswell | C. Hallenbeck<br>Roswell | A. Stevens<br>Roswell | Thos. Fee, Roswell; D. E. Martin, Roswell; Mrs. H. B. Hunter, Roswell; H. Russell, Hagerman. | J. R. Thomas<br>Roswell |
| Colfax | Patrick Berry<br>Yankee | R. C. Bolinger<br>Miami | G. C. Whistler<br>Raton | G. C. Whistler<br>Raton | H. Rukgaber, Abbott; E. N. Smith, Abbott; J. J. Keener, French; Mrs. J. P. Abreu, Springer, Fred Koehler, Raton. | W. H. Sawhill<br>Raton |
| Curry | W. H. Pattison<br>Clovis | A. B. Douglas<br>Clovis | Mrs. C. V. Steed<br>Clovis | C. E. Dennis<br>Clovis | J. D. Fleming, Clovis; D. L. Moyo, Clovis; J. M. Bickley, Clovis; Mrs. W. E. McGregor, Clovis; J. N. Parrett, Texico. | E. Peterson<br>Clovis |
| De Baca | J. De Graftenreid<br>Buchanan | S. D. Hamilton<br>Ft. Sumner | B. O. Wade<br>Ft. Sumner | B. O. Wade<br>Ft. Sumner | H. Trigg, Buchanan; Ben Hall, Dereno; F. Williamson, Ft. Sumner; W. E. Wilmeth, Ft. Sumner. | L. P. Briggs<br>Ft. Sumner |
| Dona Ana | F. I. McKamy<br>Anthony | C. T. Turney<br>Mesilla Park | G. M. Clark<br>Mesilla Park | G. M. Clark<br>Mesilla Park | J. Rigney, La Mesa; H. H. Brooks, Las Cruces; F. E. Lester, Mesilla Park; J. H. Evans, Mesilla Park. | Geo. Clark<br>Las Cruces |
| Eddy | W. W. Galton<br>Carlsbad | N. O. Doering<br>Lake Arthur | C. F. Wright<br>Carlsbad | C. F. Wright<br>Carlsbad | C. Rogers, Artesia; F. E. Fite, Hope; W. E. Rose, Loving; J. N. Cunningham, Carlsbad; Mrs. W. W. Calton, Carlsbad. | A. Z. Smith<br>Carlsbad |
| Luna | J. F. Holiday<br>Deming | P. J. Case<br>Deming | L. L. Gaskill<br>Deming | F. L. Nordhaus<br>Deming | H. Ramsey, Deming; G. D. Hatfield, Silton; L. Dornbusch, Deming; J. G. Ingram, Deming; G. W. McCan, Deming. | A. C. Heyman<br>Deming |
| Otero | Chas. Beasley<br>Mt. Park | Oliver Allen<br>Weed | M. McNatt<br>La Luz | M. McNatt<br>La Luz | A. J. Posey, A. G. Morgan, R. C. Wood, Chas. Boren, Mrs. W. N. Turner, Cloudcroft D. H. McGuire, Tularosa. | L. Beaty<br>Alamogordo |
| Quay | J. C. Robbins<br>Tucumcari | M. C. Gar<br>Bard | D. J. Finegan<br>Tucumcari | D. J. Finegan<br>Tucumcari | A. Calisch, Montoya; T. C. Collins, Obar; S. A. Steffian, Jordan; J. W. Beevers, St. Vrain; J. J. Briscoe, Tucumcari. | E. M. Yates<br>Tucumcari |
| Roosevelt | Carl Mueller<br>Portales | T. D. Davidson<br>Texico | R. G. Bryant<br>Portales | R. G. Bryant<br>Portales | J. V. Miller, Portales; H. Edmonds, Portales; C. Greathouse, Upton, S. A. Crabb, Portales. | J. B. Peterson<br>Portales |
| San Juan | F. B. Townsend<br>Aztec | C. J. Collyer<br>Fruitland | R. W. Bergin<br>Aztec | R. W. Bergin<br>Aztec | J. Luther, Flora Vista; H. Dudley, Rosing; D. Miller, Farmington; W. A. Perry, Cedar Hill; Geo. Allen, Farmington. | H. S. Moles<br>Aztec |
| San Miguel | W. F. Calhoun<br>E. Las Vegas | Matt Gark<br>Cherryvale | C. Mair<br>E. Las Vegas | C. Mair<br>E. Las Vegas | | |
| Sierra | M. L. Kahler<br>Las Palomas | H. F. Crouch<br>Caballo | S. N. Matson<br>Hot Springs | S. N. Matson<br>Hot Springs | M. S. Kirkpatrick, W. M. McMath, Las Palomas; C. W. Ranse, E. Bacchus, Hot Springs; F. M. Bojorquez, Hillsboro; J. E. Gordon, Caballo. | P. J. Smith<br>Hillsboro |
| Taos | A. C. Pacheco<br>Arroyo Seco | Louis Wingart<br>Taos | L. P. Martinez<br>Taos | L. P. Martinez<br>Taos | | H. M. Aragon<br>Taos |
| Union | C. Adams<br>Thomas | J. T. Smith<br>Clayton | A. L. England<br>Clayton | A. L. England<br>Clayton | W. B. Plunkett, H. R. Mills, A. B. Ogiloote, Clayton; W. H. Lindsey, Sedan; J. W. Ryan, Thomas; T. E. Mitchell, Albert. | O. Beaty<br>Clayton |

# *from* NOVEMBER 28th
TO
# DECEMBER 13th

The Farm Bureaus in New Mexico
are going after

# *More Members*

During this period they will determine
upon the big jobs for 1920

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## Saturday, December 13th
*Will be*
## FARM BUREAU DAY

¶ When thousands of farmers and stockmen will attend county-wide meetings in their respective counties to learn about these big jobs and to elect the proper officers and executive committee-men to carry on the work.

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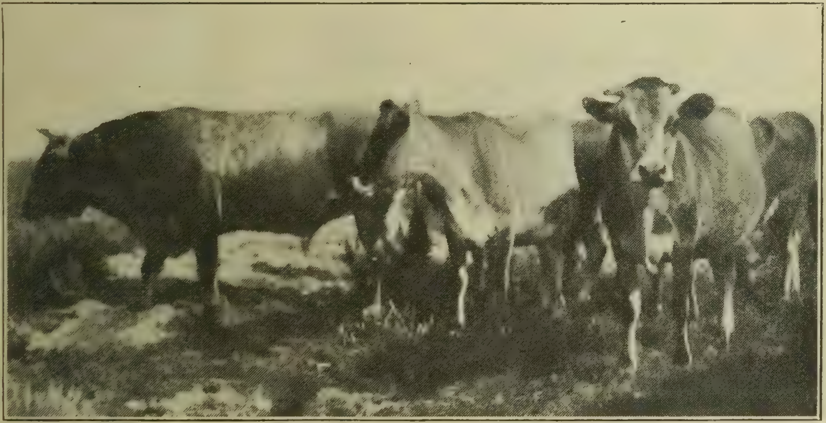
# THE NEW MEXICO FARM COURIER

Vol. VII. DECEMBER, 1919. No. 13.



Union County Is Improving Its Dairy Cattle. In This Herd of J. V. Vogdill, Grenville, New Mexico, a Good Sire Leads the Way.

Published Monthly by the Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M., and United States Department of Agriculture, Cooperating.

# THE NEW MEXICO FARM COURIER

Published monthly by the New Mexico College of Agriculture and Mechanic Arts and sent free of charge to residents of New Mexico on application.

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AUSTIN D. CRILE, President of College.
FABIAN GARCIA, Director of Experiment Station.
C. F. MONROE, Director of Extension.

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W. L. Elser...........Assistant to Director
L. H. Hauter, Extension Editor.

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R. S. Conroy, Valencia Co., Los Lunas.

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C. A. McNabb, Marketing.

#### Boys' and Girls' Club Work—State College.

Robert Foster, State Leader.
W. T. Conway, Canning and Drying.
Elizabeth Koger, Assistant Leader.

#### County Home Demonstration Work.

Mary B. Richardson, State Leader, State College.
Lucille Woodard, Chaves Co., Roswell.
Sarah Van Vleck, Doña Ana Co., Las Cruces
Edith M. Hurley, Union Co., Clayton.

# EDITORIALS

BY PRESIDENT CRILE

## FARMERS', STOCKMEN'S AND HOMEMAKERS' WEEK

Beginning the second Monday of the new year, there will be held at the College a real, intensive school, which will last for one week. To this school are invited the farmers, stockmen and homemakers of New Mexico. The plan this year will be different from other years, in that we shall organize classes and have lessons of two-hour duration, under competent teachers, so that we can make some real advance along the lines in which those in attendance are interested. It would be well worth the time of our stockmen, farmers and homemakers to spend a week at their State College, to see what we have in the way of equipment, to learn what they could from our experiments, and to see our splendid student body, which passed, some time ago, the 400 mark.

Those of you who can drive, if you will come in your cars, we shall be very glad to have your car put into our large automobile repair shop and have the student body work over your car and put it in good condition for you to return home; as well as you, yourself, take lessons on the operating parts of your automobiles.

We want to see you here, in order to encourage us, and we want to help you, so you will think more of your State College.

## SILOS.

While you are feeding out your silage, make careful observation regarding any that spoiled and ascertain the reason why it spoiled. If you are not sure of the cause, write the facts about it or send samples of the silage to the College, and we will tell you why. See whether you had too much or not enough water, whether the silo leaked air into the ensilage, it was not tramped enough, or just what was the matter. The time to make up your mind as to what to do next year is while you are still feeding it out this year.

We would be glad to help you with any problems concerning your silo.

### SHELTER.

New Mexico's climatic conditions may properly be considered one of its assets, as compared with central and eastern parts of the United States. This, however, should not be carried too far. Both the farmer and the ranchman should make a careful survey of their farming or livestock industry and see what could be done, in the way of properly protecting it. The man who owns a ranch at a high elevation, without windbreaks of any sort, leaves an opening for a possible loss in a heavy snow storm next winter, and should see whether or not he can prevent this. It will not require much shelter—a shed of some sort—to break the north and west winds, permitting the sunlight to enter from the east and south, and making a place that will protect dairy cattle and young stock on the bad and disagreeable days. The fact that our climate is so good makes stock suffer all the more during the bad weather. I wish in this issue of the "Courier" to call your attention to this factor. Think back over your past experience, and in view of that, plan your best economy for the care of your stock this winter.

### FORETHOUGHT.

If our forethought was anything like as good as our hind thought, we would all be great people. Primarily, the difference between people is the difference between those with good forethought and those who have poor or no forethought at all.

Have you thought out your program for next year? Have you thought of your machinery and machinery equipment; just when and how you intend to plow; just what you intend to plant; and just how you will select your seed; and have you planned to fix your machinery and have everything in perfect order? And have you thought out how important it is, in dry farming, to plow fast and quickly and to sow quickly, when you have moisture? Have you thought—if you have irrigation farming—how important it is that your ditches work properly? Now is the time, during the winter months, when we are not rushed so much, to think out the problems for next spring and summer. Remember the old slogan, which every farmer should carry: "Improve it."

### FARM COURIER INDEX.

In this issue of the New Mexico Courier we are publishing an index to volumes 4, 5, 6 and 7, with volume 4, No. 5. The name was changed from The College Courier to the New Mexico Farm Courier. This index has been prepared, not only for the convenience of libraries and extension and experiment station workers, but also in order that any one who has kept a more or less complete file of the Couriers may readily refer to any article that has been published.

It is our intention to publish such an index every few years, so we suggest that readers keep their Couriers until the index has been published and then place the index with them so that they may refer to any article.

We are deeply indebted to Miss Floy E. French and Miss Margret Buvens of the College Library, for the preparation of this index.

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# Sweet Substitute for Sugar

## Malt Sugar Sirup, New Commercial Product, Has High Food Value and Delicious Flavor.

The Department of Chemistry has recently received the following report from the U. S. Department of Agriculture relating to a substitute for sugar which will tend to relieve the sugar shortage now in effect:

"Malt sugar sirup is a brand new sweet which has arrived on a commercial scale at the psychological moment to relieve the sugar shortage, say the specialists of the Bureau of Chemistry, United States Department of Agriculture, who have investigated various substitutes for sugar. In addition to being a sweet, malt sugar sirup has a delicious flavor somewhat resembling that of honey, which adds much to its palatability and value as a sugar substitute.

"While malt sugar has long been

known to chemists, its production on a commercial scale is only beginning. Two factors have stimulated its production recently. The shortage of sugar has developed a market for it, and the recent prohibition law has made available both the raw material and the machinery needed for its manufacture. Malt sugar sirup is made from the same grains as beer and may be made from corn or potatoes or any plant containing starch. Barley, which was used until recently in the manufacture of beer, can be used now to produce malt sugar sirup.

"Breweries, with very little change, can be used and are now being used for its manufacture. Up to a certain point the process for making malt sugar sirup is the same as the process for making beer. Evaporating pans is the principal additional equipment required by breweries to become malt-sugar sirup factories.

"Malt sugar sirup looks very much like maple sirup. It can be used for everything that cane sugar is used for. While its use on the table may not be quite as convenient as sugar, it is a most excellent substitute for table use when sugar is not to be had, as it not only provides sweetness but is equal to sugar in food value. For cooking and baking purposes and for making candy it is not only equal to sugar in convenience and food value, but is superior for some uses because it will not so rapidly crystallize.

"Malt sugar sirup is now being sold in large quantities to commercial bakeries and candy and soft drink manufacturers, who use it in place of sugar. The wholesale price as quoted in recent advertisements in trade papers and elsewhere is from 7 to 9 cents per pound in barrel lots. Many retail grocers do not handle it yet, because there has been little demand for it on the part of housewives. Grocers can now obtain it and no doubt will be glad to do so as the demand for it increases. Housewives can well conserve their dwindling supply of sugar by using it in cooking, baking, and homemade confections, and even on the table for sweetening coffee, oatmeal, and desserts. It can be used for every purposes for which sugar is used. If the housewives want it, the grocers will get it.

"Although malt sugar sirup is being called upon, so far as household use is concerned, merely as a pinch hitter in the present emergency, the specialists expect that it will make such a batting average that it will hereafter have a regular place in the batting order. This is a case where the substitute makes so good that the regular, whose place it takes, may have to warm the bench. While it is not likely that this new sweet will replace sugar for table use in normal times, it undoubtedly will make a place for itself in the household as it is doing in the manufacture of food products. It is excellent, wholesome sirup, and on account of its delicious flavor, is superior to sugar for some purposes in cooking and baking."

Anyone wishing further information in regard to this subject and the manufacturer making this substitute may write to Office of Information, U. S. Department of Agriculture, Washington, D. C.

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# Undernourished Children

Reliable statistics show that one-fourth of all the school children in the United States are undernourished. The undernourished children are by no means found only in the homes where it is a difficult financial problem to furnish food for the family, they quite as often come from the homes of plenty where the children are allowed to eat just what they want instead of what they need.

**Signs of Undernourishment.**

The signs of undernourishment are easily read. The child is usually thin and under weight, tho sometimes fat and flabby, instead. The skin may be pale, delicate and wax-like or may have a sallow, muddy, pasty appearance. Usually there are dark circles under the eyes. The lining of the eyelids and mouth is often pale and colorless. The tongue coated and the bowels constipated. The skin seems loose and the muscles undeveloped. The shoulders are often rounded and the chest flat and narrow. Decayed teeth, adenoids and enlarged tonsils are often present. The child may be listless, not caring to play or work, tiring easily and is frequently called "lazy." The expression of the eyes and face is often lifeless and dull. He is sometimes nervous, restless, sleeps lightly and is finicky about his food. He is often irritable and hard to control. In school is usually not up to his grade. He lacks mental vigor and has little power of concentration.

### The Effects.

The effects of undernourishment in children is both physical and mental and often times moral. One of the chief medical officers of England says, "The undernourished child tends to become disabled and unemployable, incapable of resisting disease or withstanding its onset and process."

Some of the accompaniments of undernourishment are retarded growth, anemia (lack of good red blood) nervousness, irritability and diminished energy. These are important factors in life. A nervous, irritable, restless child or adult is a constant strain on energies of those about him, while a dull, lifeless, uninterested one gets no joy out of life himself nor is he able to give any to anyone else. The lifeless inactive undernourished child who is always tired, who refuses to join his comrades in play grows into the dull, inefficient man who is handicapped by a poorly developed body and the lack of vigor and vim that makes him unable to do his share in the world's work. He is the inefficient adult, rejected not only as the army recruit, but as a successful worker of the world.

Another serious result of undernutrition is the susceptibility to disease. In case of an epidemic of contagious disease the difference between the well nourished and the undernourished children is at once apparent. The well nourished child of fine physical appearance may not escape the disease; but if he does contract it he has greater powers of resistance and usually recovers quickly. The undernourished child, especially if he has bad tonsils and teeth, or adenoids, usually "takes" all contagious diseases, is apt to develop a serious case from which he recovers slowly, if at all. Many children annually fall victims of what are known as "children's diseases" because they have not the necessary resistance to overcome them.

The undernourished body furnishes the best soil for tuberculosis, that dreadful disease which once started rapidly tears down the body tissues. The only way to withstand this disease once the infection has taken place is to build up the body into such a fine, well nourished condition that the disease has no chance to make headway.

### Treatment of Undernourished Children.

In most cases a physician should be consulted to determine the cause. If the cause is due to physical defects they should be treated. Adenoids and tonsils should be removed, bad teeth cared for, the diet regulated, and a better scheme of living provided. If poverty should be found to be the cause of this condition in children, then the help of relief agencies should be secured.

To accomplish anything along this line requires a program of education and in some cases provision will have to be made for opportunities to secure proper food, fresh air and sunshine.

The hot lunch now being introduced into many of our schools is one of the best means of providing proper food. It also serves as an opportunity for education concerning simple nutritious foods. If mothers could only be brought to regard the undernourished child as an abnormal child in a dangerous condition they would see the necessity of at least giving as much attention to the feeding of the children as the farmer gives to the feeding of his pigs and calves.

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## HOUSEHOLD UTENSIL EXHIBIT AT THE UNION COUNTY FAIR.

An exhibit of household utensils was made by Mrs. Edith M. Hurley, Home Demonstration Agent, at the Union county fair. The exhibit consisted of a home made fireless cooker, kitchen cabinet, a serving table made from boxes and a number of inexpensive kitchen helps furnished by one of the hardware stores.

# Executive Committee of Cattle and Horse Growers' Association Meets at State College

## College and Business Men of Las Cruces Prepare Elaborate Entertainment for Guests.

November 7 and 8 were two busy days at State College for about twenty-five of New Mexico's foremost stockmen met, who came here to attend the quarterly executive committee meeting of the New Mexico Cattle and Horse Growers' Association.

In addition to attending to matters of the Association with reference to the development of the range industry of the state these men were the joint guests of the Agricultural College and the town of Las Cruces.

The afternoon of the 7th was spent in visiting the grounds and buildings of the College. A livestock parade was the big feature of the day when the visitors had an opportunity to review from the grandstand in the athletic field the fine herds of Hereford, Angus, Shorthorn, Holstein, Guernsey and Jersey cattle, the three latter representing the dairy breeds. Rambouillet, Dorset and Shorpshire sheep, Toggenburg goats and Percheron horses completed the list. Following the parade they had the opportunity of seeing the College football eleven win a decisive victory over the New Mexico School of Mines to the tune of 54 to 0.

### Stockmen Enjoy Banquet.

In the evening the Las Cruces Commercial Club elaborately banqueted the visitors and friends at the Campbell house, where an eight-course dinner was served. During the evening short talks were made by Victor Culbertson, president of the New Mexico Cattle and Horse Growers' Association; Lieutenant Governor Pankey, T. E. Mitchell of Albert, Senator Holt of Las Cruces, Senator Frank Hubbell of Albuquerque and Dr. Crile, president of the college.

The sentiment voiced by the visitors in their talks was that the work now being conducted by the Agricultural College through the teaching, experimental and extension forces had already reached proportions beyond their conception. They were more than pleased with the activities of the college and the manner in which this institution was serving the farmers and stockmen in all parts of the state.

On the following day they went out to the Jornado Grazing Reserve, which is twenty-five miles miles northeast of Las Cruces, as the guests of C. T. Turney. On this range of 200,000 acres the U. S. Department of Agriculture has been conducting experiments in range management and livestock improvement for a number of years, in co-operation with Mr. Turney. At the ranch headquarters a barbecue dinner was served. The party returned to Las Cruces late in the afternoon.

## RESULT OF TWENTY-NINE CULLING DEMONSTRATIONS.

During the months of August and September the writer of this report conducted fifty-three demonstrations in selecting the hens that had and were producing from those that had not been and were not at that time. This is a summary of the reports from six counties where twenty-nine demonstrations were held. Six other counties where twenty-four demonstrations were held have not made reports at this time.

In these twenty-nine demonstrations there were three flocks culled where the owners did not keep the records as requested, three flocks whose owners did not keep the culls from the good hens and twenty-six flocks where the cull hens produced no eggs or a small number in comparison with the other hens.

### Efficiency of Flocks Doubled.

A total of 1,695 hens were in the

# Farm Bureau

### GRANT COUNTY FARM BUREAU COMPLETED.

Another farm bureau was put into active working order when over fifty farmers and stockmen met in Silver City, November 1, and completed the organization of the Grant County Farm and Livestock Bureau. A few definite jobs were decided upon as a basis of work for the coming year, after a thoro canvass was made of the various communities of the county to ascertain their needs. Officers and members of the executive committee were chosen in terms of these jobs.

Outstanding in the work already under way by this organization has been the formation of the Burro Range Salt Pool Association. Thru this concern a sufficient supply of salt will be on hand at all times and evenly distributed over the range. Each person on this range will be assessed on each head of stock taxed.

Mr. L. E. Foster of Gila was chosen as president for the coming year. Mr. John Gumm of Mimbres valley is secretary-treasurer. Grant is the eighteenth county in New Mexico to have a bureau. Fully 100 farmers and stockmen have already joined the organization.

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original flocks where the twenty-three complete reports were made. Of this number 656 hens were taken out as non-producers. During the seven days immediately preceding the demonstrations the 1,695 hens averaged 368 eggs per day and during the seven days immediately following the demonstration the 939 hens selected as good producers averaged 392 eggs per day. The production of these flocks then before culling was 21.71 per cent and after culling out the non-producers the production was increased to 41.74 per cent. In another way of expressing it, 656 hens were removed from flocks which originally had 1,695 hens and the daily egg production was increased 20.03 per cent.

Just what the saving would be if every farmer would cull his flock in the fall may be hinted at by observing that in these twenty-three flocks the hens taken out as culls would normally consume 164 pounds of feed daily. This averages over seven pounds for each flock of the twenty-three or in the neighborhood of 30 cents' worth per day. This amounts to nearly $10 in a month. Is it not absolutely safe to say, then: "Cull your flocks during the months of August and September."

New Mexico Extension Circular No. 50, "Nine Points to Consider in Culling Out Non-Producing Hens" will tell you how.

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### LUNA COUNTY PLANS MEMBERSHIP CAMPAIGN.

At a recent meeting of the executive committee of the Luna County Farm and Livestock Bureau definite plans were made to reorganize the bureau for 1920. Ten committees were decided upon in which the county agent and some member of the executive committee will work to get at the community problems and to develop a committee in each one to look after the work thus outlined.

This work will begin November 28 and end in a big county-wide meeting in Deming, Saturday, December 13. The outstanding work developed in the various communities will go to make up the program of the bureau for the coming year. Officers and members of the executive committee will also be chosen. They are going after 150 members for 1920.

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### SCHOOL CHILDREN MAKE GOOD GAINS.

We commonly hear of gains made by hogs or other livestock but it is not so common that we hear of gains made by children. The Berrendo Home Economics Club in Chaves county, however, believes that the welfare of the children is just as important as the welfare of the hogs so have begun to do some real child welfare work. A physician was called to the school to examine each child and suggestive diet and health rules were given to each mother. Enough money

# Club Work

### STATE CLUB ENCAMPMENT.

The State Club Encampment will be held at State College during the annual Farmers' Week beginning January 12, 1920. The privilege of this meeting is open to the county champions in the several club projects. The county club leaders and county agents are making provisions for getting the winners to the College and back home. The College will furnish free entertainment to the club members and chaperons. A definite program is being arranged which will give the boys and girls something interesting and profitable every hour in the day thruout the week. This program will be published in due time and sent out to all champion club members in each county just as soon as their names have been reported to the State Club office. Watch for announcements in the local papers, the farm bureau news and circular letter from the College.

Champion club members will be expected to send or bring their exhibits to the state meet, except the pig and calf clubs. County winners should keep this fact in mind and be ready.

### LAS VEGAS CLUB EXHIBITS.

Exhibits of the boys and girls club work were held at Las Vegas October 10 and 11. The work at Las Vegas was completed under the leadership of Joseph F. Nielson, with Miss Rumulda Delgado as leader of the cooking and sewing projects. Dr. Roberts, president of the Normal, extended to the club leaders the use of the home economics department for the cooking and sewing clubs during the year and some interesting work has been completed. The girls kept a very careful record of expenses of their canning and beans have been canned at ten cents a pint.

At the exhibit the cooking and sewing were attractively arranged and made a creditable display. The garden club members showed some very fine products. Drawings with the club members' records show that by careful planning the gardens and rotating the crops, the quality, quantity and variety of products have been increased.

On Saturday afternoon, at the Achievement Day program, Dr. Roberts spoke to the club members on the fine spirit manifested by those

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was raised at a cooked food sale to purchase a scales and the children are weighed regularly. Last month each child gained 1 to 4½ pounds and the results were sent to the parents on the monthly report blank. These reports are doing much to create an interest in the physical condition of the child.

### FIFTY PRESSURE COOKERS INSTALLED IN DONA ANA COUNTY

Fifty pressure cookers have recently been installed in Dona Ana county thru the influence of Mrs. Sarah Van Vleck, the home demonstration agent. The women report remarkable success. One woman says, "No kitchen is complete without a pressure cooker. It saves time, fuel and dishwashing." Many women who had never canned a jar of vegetables before canned large quantities this year and are planning to can chicken and meat for winter use.

### DONA ANA COUNTY WOMEN MAKE USEFUL RUGS.

Some beautiful and useful rugs are being made in Dona Ana county as a result of the success of the home demonstration agent in finding a woman who would weave carpet rags into rugs. The women of the county have been meeting in groups and making over garments and such garments that required too much work to be made over were torn up and sewed into carpet rags. These rags are being woven into very serviceable rugs at a small cost. One woman has already had seven of these rugs made.

who did not win prizes, emphasizing the point that, regardless of winning a prize, the club member who finishes has achieved and has carried out our motto, "Get in the game, stay in the game and complete the job." Mr. Nielson then awarded the prizes and pins to all club members who completed their work.

### CURRY COUNTY CLUB ENCAMPMENT.

Curry county held its club encampment October 30 to November 1. Exhibits were made of pigs, poultry, garden products, rabbits, cooking, sewing, canning, corn, beans and milo maize. Two hundred boys and girls attended the encampment and competed for prizes. Dr. Crile, president of the State Agricultural College, judged the pigs and addressed the club members. Mrs. Koger and Mr. Conway assisted in judging the field crops, cooking, sewing and canning and assisted with the encampment.

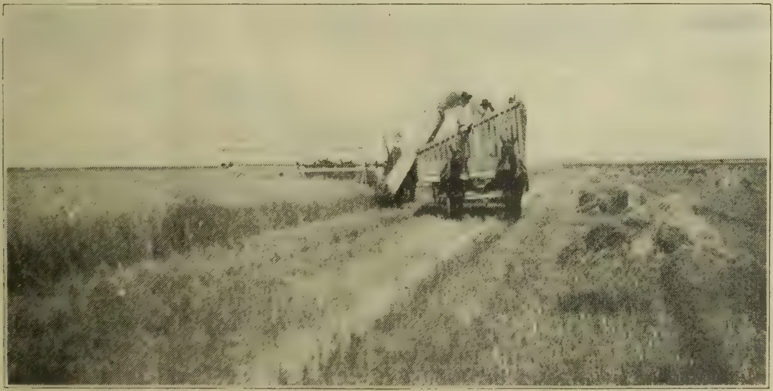
### Union County Imports Good Stock.

As a result of the activities of the county agent and the farm bureau in Union county during the past season, the following livestock was shipped into the county and distributed to club members and farmers: 106 dairy calves; 8 registered bull calves of the dairy breeds; 19 high-grade dairy cows; 11 registered boar pigs; 2 registered bred gilts; 38 registered sow pigs. Besides there were 62 pigs exchanged in the county thru the work of the office. The farmers and stockmen of Union county are alive to the importance of more and better livestock as is evident by the frequent orders which are being placed with Mr. Beaty and his assistant, Mr. Hollinger.

### ROOSEVELT COUNTY FARM BUREAU INCORPORATES

The distinction of having the first incorporated farm bureau in the state of New Mexico goes to Roosevelt county. The farm bureau has taken advantage of the law passed at the last session of the Legislature which authorizes incorporation of farm bureaus, and its charter was issued on July 29. The incorporators are as follows: Carl Meuller, John G. Miller, R. G. Bryant, F. A. Crabb, and H. P. Edmonds. George L. Reed of Portales is designated as statutory agent.

The women of Lake Morman in Union county united and purchased a community canner and have canned about 1000 cans of vegetables.



QUAY COUNTY HAS JUST HARVESTED A GOOD CROP.

**Here is shown a header in operation in the plains section of the farm of J. W. Beevers, Forrest, N. M. Mr. Beevers is a farm bureau booster, being their executive committeeman on crops, and has sold $20,000 worth of grain this fall.**

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# Farmers', Stockmen's and Homemakers' Week

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## AGRICULTURAL COLLEGE, JANUARY 12 to 17

Specially prepared courses will be given in the different lines of agriculture and home making. The Boys' and Girls' Club Encampment will also be held during the same week.

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# THE NEW MEXICO FARM COURIER

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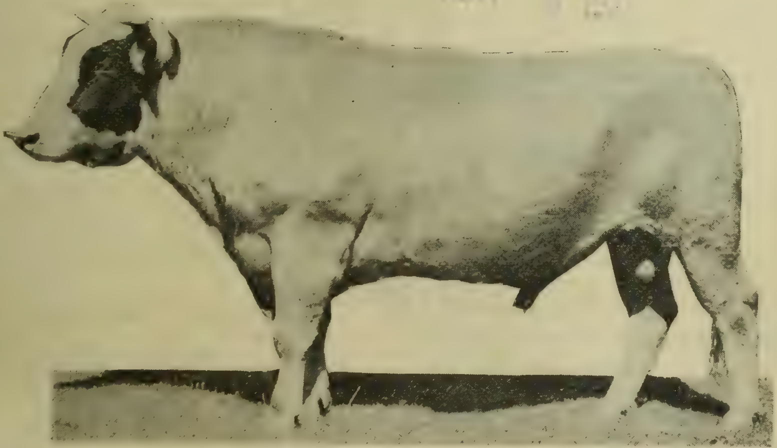

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# EDITORIALS

## THE ANNUAL FARMERS' WEEK

In another section of the Farm Courier will be found the program for the men's section of the Farmers-Stockmens-Homemakers Week to be held at State College, January 12-17. The program for the women and boys' and girls' clubs has not been completed as this goes to press, but there also will be a complete program for them.

As announced in a previous issue of the Courier the Farmers' Week program this winter will be organized slightly different from plans in the past. From 9 to 10 a. m. each morning a general session will be held in Hadley Hall at which members of the faculty and speakers from a distance will talk on subjects of general interest. From 10 to 11 and 11 to 12 each day, forenoon classes will be held in certain subjects. One class for women and two classes for men will be held during each of these periods. The regular college faculty will give a series of lessons on their particular subjects during these hours. In this work the college staff will be supplemented by successful farmers in the state and specialists on certain phases of agriculture, brought in especially for the occasion.

Prof. John Evvard of Ames, Iowa, a recognized authority on animal feeding, and especially hog feeding, has been secured for a series of lectures.

Two afternoon periods from 1 to 1:30 and from 1:35 to 4, will be given over to laboratory work such as stock judging with all classes of livestock, seed selection and testing work, prunning and spraying demonstration, etc.

The women's work will be handled in much the same way as the men's. The morning periods will be given over largely to class and lecture work, while the afternoon session will be devoted to such work as demonstrations of food preservation and preperation, remodeling of clothing and household conveniences.

Dr. Sarah Coker of the child welfare service of the State Department of Education has promised to appear on the women's program. Efforts are being made to secure a home economic worker of a national reputation.

At least two evening sessions are being arranged for, at which entertainment features will be introduced.

It will be noted from the program that certain classes meet at the same time. However, the work has been so arranged that persons interested in a special subject such as dairy cattle, horticulture or grain growing can attend all sessions on their special subject as well as some sessions of allied subjects.

### THE AGRICULTURAL CENSUS

By the time this issue of the Farm Courier reaches its readers, enumerators will already be busy taking the 1920 census. Never before has such an effort been made to obtain reliable and useful agricultural information. Much progress has been made during the past ten years in the matter of rural economics and farm management and advantage has been taken of the information gathered in preparing the schedule for the present census.

Information will be obtained on farm tenure, farm acreage, farm encumbrance, farm values, farm expenses, uses of land, drainage, livestock and their grade, farm facilities, co-operative marketing and crops grown. Much of the information gathered will be entirely new and when it has been summarized it will be of the greatest value in throwing light on the business or economic side of farming. It will do much to promote and develop better agricultural conditions throughout the United States.

There is no cause for evading the enumerator. The information he obtains will be treated as strictly confidential and will in no case be used as a basis of taxation. When the information is summarized, however, it will be of the greatest importance to the rural population. The statistics gathered will largely determine the future land policy of the federal government. Farmers and stockmen can well afford to take special pains to give the enumerator all possible aid and should be prepared to answer accurately and fully all questions asked.

### TAKE A FARM INVENTORY

There is no phase of farm bookkeeping that will give more information for the time required than the taking of an annual inventory. At least once a year, everyone should take stock of himself and find out just what he has accomplished during the preceding year.

An inventory, carefully taken once a year, will show the profitableness of the farm business. It is highly desirable when making out the income tax report. It is essential as a basis for the keeping of farm records. The amount of money on hand at the close of the year does not accurately indicate the amount of money made, because it does not take into account the increase or decrease in livestock, farm machinery, grain, forage or supplies.

While the best time to take an inventory is when the supplies on hand are at their lowest point before the principal work of the new year begins, the fact that the income tax report is made for the year ending January 1, this in many cases, may prove to be the most desirable time to take the inventory. Work at this time is usually slack, and it is a good time to analyze the past year's work and make definite plans for the coming year.

To be reliable, however, the inventory must be carefully taken. Nothing should be overlooked. It is best to make definite classifications, such as land, livestock, farm machinery, feed and supplies, cash, bills payable and bills receivable, and then go through each class and list each item that it contains. Small items may be lumped together, but all things of importance should be listed separately and a definite value placed on each. When one has only a few horses and cows, each one should be named and given a value as this will aid greatly in checking up with the inventory at the close of the year. For the purpose of checking up the year's profits one had best not place an increased value on his land at the close of the year, unless this increase is due to improvements made.

Two columns should be made after the items listed, one for the value at the beginning of the year and one for the close. This will make it much easier to take the inventory at the close of the year and aid in preventing anything from being overlooked. By having these two columns side by side will also aid greatly in analyzing the year's business.

### "THE NEW ERA IN NEW MEXICO"

The college still has for distribution several hundred copies of the above publication. This is a commencement address delivered at State College last June by Mr. W. C. Reid, and contains a large amount of information regarding the resources and future outlook for New Mexico.

Copies of the address can be secured, free of charge, by addressing the President, State College, N. M.

# CAN FARMERS COOPERATE?

## SOME EXPERIENCES IN NEW MEXICO SHOW THAT THEY CAN.

By C. F. MONROE

ONE might travel through a farming country, asking 100 farmers this question, and get 90 per cent replies in the negative. Many of us have heard it stated so often that farmers cannot or will not co-operate for their own benefit that we could not be censured if we did eventually begin to believe it. It would not be so bad if it were not that the farmers who frequently make such statements have repeated them so often that they really believe that fact themselves. It is true there are many monuments to misdirected co-operative effort scattered over the United States and in the state of New Mexico. There will doubtless be many mistakes made in the future. As long as co-operative schemes are launched without careful study of the economic factors involved, failures are bound to occur. We have at state college a man who is employed jointly by the extension service and the United States Bureau of Markets to give assistance to producers who have marketing problems—C. A. McNabb, who has been employed in the capacity of marketing specialist since January, 1918.

### Not All Co-operative Enterprises Are Successful.

Don't imagine that all the work attempted by Mr. McNabb has proven successful. The millennium has not yet been reached in New Mexico. When farmers have jollied themselves long enough with the statement, "Farmers can't co-operate," why, they simply can't, that's all.

In the broom corn producing section of the state marketing conditions for this crop had not been satisfactory for some time. This spring four of the county agents in that section thought something should be done and a meeting was called to consider ways and means of remedying the situation. The meeting was well attended and it was decided to organize according to plans to be worked out by a committee composed of growers, county agents and the marketing specialist. Plans were prepared and submitted to a great many communities for adoption. The general plans were the same as had been used in co-operative marketing enterprises were in favor of going ahead, but the majority had evidently heard that "Farmers can't co-operate," for so long that they believed it and they were willing to let things drift along as they had been going.

### Sweet Potato Growers Co-operate Successfully.

As a direct contrast let us consider the work of the Portales Valley Sweet Potato Growers' Association. Prior to this year the situation in that section was quite unsatisfactory notwithstanding the splendid soil and climate and a very satisfactory yield. Much of the crop was grown by settlers financially unable to provide for curing and storage houses with the result that 50 to 75 per cent of the crop was forced onto the market at digging time. Local competition seriously reduced the price to the growers. The shipping of green or uncured sweet potatoes to distant markets brought unsatisfactory results. Rot and the generally bad condition of the stock in many instances made necessary an allowance of 50 per cent of the sale price before the consignee would accept the shipment.

In June the attention of the marketing specialist was brought to this condition by the county agent, J. B. Petersen. After a careful survey and conference with several of the leading growers it was decided that an attempt should be made to interest all producers in a co-operative association—the scheme to embrace the construction of curing houses with sufficient capacity to accommodate the entire crop. In response to a call for a meeting of all growers a meeting was held at Portales on July 8. Fourteen growers were in attendance and an organization was effected and a campaign for membership agreed upon. The net results at this time show 95 per cent or more of the growers in the organization with substantially constructed curing house capacity of approximately 50,000 bushels. The curing houses are completely filled this season and a well qualified secretary-treasurer,. E. N. Wheeler, is giving his entire time to the association's affairs.

### Method of Handling Crops.

Practically all of the stock of the 1919 crop went into the curing houses. A quantity of stock, amounting to several carloads belonging to several growers, was somewhat damaged by a hail storm from exposure at digging time. Such stock was worked off locally and to nearby shipping points without the competition of the better run of potatoes, hence at a profit and with little or no loss through deterioration. At present the cured stock is moving out steadily from the curing house without the usual competition between local growers and the attendant reduced prices. All stock is carefully culled, graded and shipped in uniform packages. It is bought and accepted at leading points by reliable dealers who want a first class product and are willing to pay the price asked by the association.

### The Association Saves $21,000.

Through the advantage of adequate and efficient curing and storage all loss and deterioration was eliminated. It is conservative to figure the saving from such loss at 10 per cent of the entire crop, which in this instance would be 5,000 bushels. At the price of $1.50 per bushel, the net financial gain with respect to elimination of deterioration would amount to $7,500. Allowing for natural shrinkage in weight through curing processes the cured stock easily commands an increase of 1 cent per pound in market value, but to be conservative let us cut this estimate in half and figure 50,000 bushels at 25 cents per bushel. This would show a net gain of $12,500 for the work of the association. A saving was also effected in the purchase of crates. In the past it has been the custom for each grower to purchase his own. For the 1919 crop the association purchased all crate material, including nails. A conservative estimate places the saving in this regard at $1,200 and in addition a much better quality of crates were secured than in previous years.

At the present time everything is moving along nicely. The crop is going onto the market as rapidly as is desirable and the growers are so well pleased that a considerable increase in acreage is contemplated for next year. Credit for the successful organization and the carrying on of this year's business is to go largely to the officers, who in addition to Mr. Wheeler, mentioned above, are as follows: W. F. Shaw, president; Carl Mueller, vice-president; George E. Johnson and John M. Bradley, directors.

### The Bean Growers' Association.

The majority of the bean growing section of the state have also had it demonstrated to their entire satisfaction that farmers can co-operate if business principles are employed. A considerable part of the time of the marketing specialist last year was given to the organization of a state association for the marketing of pinto beans with locals in the various bean producing sections. Here, too, we find that in certain sections of the state the bean producers do not believe that they can co-operate and consequently are taking from a half a cent to a cent per pound less for their products than are the members of the association. Thirteen local organizations of the State Bean Growers' Association are now doing business. They are located at Estancia, Mountainair, Moriarity, Stanley, Springer, French, Abbott, Levy, Optimo, Cherryvale, Trujillo, Vaughn and Des Moines. The state organization, with headquarters at Albuquerque, is in charge of a competent secretary-treasurer, N. W. Field. With a few exceptions local associations own their own warehouses and equipment, part of which consists of an up-to-date bean cleaning and grading machine. Locals at Cherryvale and Trujillo being off railroads have contracted with the farmers at Las Vegas to do their cleaning, warehousing and loading. The Mountainair local as yet is having its cleaning done by a local elevator, but they are a very strong organization and expect to build and equip their own warehouse in time for the 1920 crop. The Stanley local for this year is having their work done by the Moriarity local.

### A Saving of $75,000.

The approximate value of warehouses and their equipment now owned by the association is $28,000 aside from the value of the land on which they stand. A fixed charge is made by the association against cost of cleaning, warehousing, handling, bagging and selling the beans. This charge covers all expense of operation and at the present time, the bags costing about 22 cents each, it amounts to 48 cents per hundred pounds. By this means a dependable revenue is maintained which has been found adequate to cover all operating expenses and depreciation besides a fair sum for advertising of the New Mexico pinto bean.

From information obtainable the buyer in the past figured on a gross margin of 1½ to 2 cents a pound to cover cost of handling, selling and profit. Figuring the cost of handling to the association at 50 cents per hundred pounds, and deducting that amount from the lowest mentioned gross margin of the buyer, we have arrived at a probable saving to the producer gained by marketing through the association of $1 per 100 pounds. For the purpose of making an estimate that may be beyond criticism let us cut the above mentioned gain in half and figure that but 50 cents per hundred pounds represents the actual saving. A conservative estimate has been made that 375 cars of 40,000 pounds each will be marketed through the association by its members this year. This would show a net gain of $75,000 to be credited to the work of the Bean Growers' Association of the state.

### Standardized Beans Bring Higher Price.

Another result of the organization of the bean growers has been the introduction of New Mexico pintos on eastern markets in a much better condition and graded far more carefully than was the condition heretofore. Previously, if there was any sale for them it had to be at a material reduction from the price of other beans, the loss quite naturally falling on the producers. The association emphasizes quality and the buying public has been quick to note the improvement shown in association beans. At this time there is but a slight difference in price between that paid for Michigan navies and the New Mexico Association pintos, at the general market centers of the country. By strict adherence to high standards it is but a question of time when the association pinto beans of New Mexico will command a premium over the justly celebrated and well known Michigan navy.

Yes, farmers' co-operative enterprises have failed and some will doubtless fail in the future, but let us forget that ancient, long-accepted maxim, "Farmers can't co-operate."

# NEW MEXICO'S LARGEST YIELD OF BEANS, 2,112.5 POUNDS PER ACRE

SO FAR as any reliable information that we have been able to obtain is concerned, the banner, for the largest yield of beans ever grown in New Mexico, is to be given to P. A. Shope and William Haas of Luna county, who during the 1919 season, made an average yield of 2,212:5 pounds per acre on eight acres.

There is no secret about the success of this remarkable yield. The methods employed by the growers are everywhere recognized as scientifically correct principles of farming. The only difference between Shope and Haas and the average farmer is that these two men believed in these principles with a vengeance and the results show that they were correct.

### How It Was Done.

The four contributing factors to this remarkable yield are:

1. A determination on the part of the growers to produce 2,000 pounds per acre.
2. Thorough tillage.
3. Careful preparation of seed.
4. Strenuous effort to obtain a 100 per cent stand.

Some people may ask, "What has determination got to do with producing a certain yield per acre?" We reply, "That it has everything to do with it." Last year Mr. Shope grew 1,500 pounds of means per acre. He learned something in growing that crop and he said to himself, "I can grow 2,000 pounds per acre next year." His will to do this thing compelled him to take advantage of every possible resource, both natural and artificial. Without this determination the result could not have been obtained.

### Method of Tillage Used.

Second. His method of tillage was thorough. Six acres of this ground was new, being leveled during the winter and spring. After leveling the following order of operations was pursued: Plowing to a depth of from eight to nine inches, listing, irrigating, harrowing, planting in the furrow, harrowing again, and cultivating four times and part of the crop six times. The crop was irrigated twice after planting by pump irrigation and once by a torrential rain. As soon as one cultivation was finished, the growers immediately began at the beginning and cultivated their entire acreage again whether the crop appeared to need the cultivation or not. The writer was on the place several times during the season and at no time could he see a single weed.

### The Seed Was Carefully Prepared.

Third. The preparation of the seed was the best. After the beans were recleaned with a first-class cleaning machine, the growers spent 36 hours in hand picking 300 pounds. Only plump and fully matured beans were selected and these were then inoculated with a nitrogen-fixing bacteria. This assured an even and vigorous germination and even ripening.

Fourth. Using the utmost care in the preparation of seed, the fourth factor, a 100 per cent, was pretty well guaranteed. However, a torrential rain and flood on July 13 killed about all of the plants on two acres of their first planting and this land had to be replanted. Also the same rain fell immediately after the planting of the last two acres and the ground became so crusted that a perfect stand was not obtained and on these last two acres the yield was only 1,250 pounds per acre.

If we should leave these last two acres out of the reckoning, the six remaning acres yielded 2,608 pounds to the acre.

### What Did It Cost?

The irrigation was done by pumping the water from a well. This is the most expensive method of irrigation, and on this farm, because the entire acreage tilled was small, compared with the investment in the pumping machinery, it made the cost per acre run much higher than the average pumping plant charge per acre in the county.

A summary of the detailed cost charges are as follows:

**I. Overhead Charges.**

| | |
|---|---|
| 1. Land and land improvement, per acre | $10.10 |
| 2. Irrigation, pumping plant charge, per acre | 16.25 |
| 3. Farm implement charge, per acre | 2.07 |
| 4. Building charge, per acre | .78 |
| 5. Miscellaneous charge, per acre | .01 |
| Total overhead, per acre | $29.21 |

**II. Direct Charges.**

| | |
|---|---|
| 1. Labor, 526 man hours at 44 cents per hour and 720 horse hours at 8 3-4 cents per hour, per acre | $36.80 |
| 2. Material charge, including seed, inoculation material, sacks, fuel and lubrication for pumping, per acre | 10.37 |
| 3. Cash charge, including use of cleaning machinery and selling, per acre | 5.16 |
| Total direct charge | $52.33 |

This made a total overhead and direct charge per acre of $81.54. On a yield of 2,112.5 per acre, this is 3.9 cents per pound for the cost of production.

The cost per acre in growing this crop is exceedingly high and had the growers not obtained more than the average yield, estimated at 900 pounds per acre, the cost per pound would be 9.6 cents per pound and the crop would be a losing proposition.

The difference, however, between growing 2,112.5 pounds per acre and only 900 pounds per acre is the difference between practicing scientifically correct principles of farming or practicing these principles half-heartedly.

A. C. HEYMAN.

If any New Mexico farmer has raised a larger yield of beans than the one cited above, we should be glad to have him write us the details in regard to it.—Editor.

# HOUSE RATS AND MICE

THE brown rat, which was introduced into North America is the worst pest in the world. The United States Public Health Service declares it a greater pest than the common house fly.

One of the factors that tend to make it a serious pest is the remarkable and deplorable fecundity of the animal. It breeds, in the warmer climates, six or more times a year, and produces from six to twenty young in a litter. Females breed when only three or four months old. Thus, a single pair of rats unchecked, would reach the incredible total of 940,369,152 rats in a five-year period. Fortunately, we have many natural checks, which keep the numbers within moderate bounds. These figures emphasize the necessity for an increasing warfare against this rodent pest.

## Rats and Mice Cause Loss of $200,000,000.

Losses from the depredations of house rats and mice amount to $200,000,000 annually. They are practically omnivorous, feeding upon all kinds of vegetable and animal matter. The brown rat makes its home in open fields, hedge rows and river banks, as well as in walls, piers and all kinds of buildings. It destroys grain in all stages—newly planted, while growing, in shock, crib, granary, mill, elevator, bin and trough. It attacks fruits, vegetables and meats and pollutes ten times as much as it eats. It destroys eggs and young of both poultry and song birds. It carries disease (bubonic plague) from house to house. The rat is a natural reservoir for a round worm (trichina). The steps by which man acquires the parasite are from rat to hog, and from hog to man.

On all of these counts, therefore, general destructiveness, carrier of black death and distribution of disease and filth, rats deserve absolute extermination. The simple duty of every citizen is to exterminate the rats from his premises. Modern methods—traps, poison, concrete and rat-proof construction render this entirely possible.

### How to Trap Rats.

There are many good types of rat traps on the market, among the best of which are the choker or guillotine trap and the common steel trap. Two points should be emphasized. Use plenty of traps and do not forget that the old rat is a remarkably cunning animal. Remove all the available food when possible, change the kind of bait frequently and by the use of smoke and gloved hands keep traps free from human odors. Some excellent baits for rats and mice are oatmeal, toasted cheese, fish, liver, apples, carrots, corn, broken fresh eggs, and seeds of the sunflower, pumpkin, and squash. Cage traps may be well baited and left open for a number of nights. As soon as it is noticed that the rats are feeding in it freely, close the trap and make a catch. It is better to partly cover the trap than to leave it exposed. In a meat market bait with vegetables and grain, but in a feed store use meats.

### Methods of Poisoning.

While poison is the best and quickest way to get rid of rats and mice, the odor of dead animals makes the method impracticable in occupied homes. Poisons can be used effectively in barns, stables, cribs, etc. One of the cheapest and most effective is barium carbonate. This mineral has no taste or smell. Mix ordinary oatmeal with about one-eighth of its bulk of barium carbonate in water to a stiff dough.

Strychnin is another good poison and can be used as a syrup in the following way: Dissolve one-half an ounce of strychnin sulphate in a pint of boiling water; add a pint of thick sugar syrup and stir thoroughly. Coat the seeds of wheat or corn by placing them to soak in the syrup over night.

Another good formula for rats, using arsenic as the poison is the following: Take a pound of oatmeal and a pound of coarse brown sugar and a tablespoonful of arsenic; mix together well, and put the mixture into an earthern jar. Scatter the poison by placing a tablespoonful at places where rats run frequently.

### Their Natural Enemies.

Among the natural enemies of rats and mice are the larger owls (except the great horned owl), the larger hawks (except the Coopers and Sharp-shinned hawk), skunks, weasels, minks, cats and ferrets. The value of carnivorous animals and larger birds of prey in destroying rats and mice should be recognized by the farmer, who should protect our native hawks, owls and predatory animals.

The necessity of co-operation and organization in the work of rat destruction is of utmost importance. It is very necessary that we have organized clubs and other societies for systematic warfare against rats and mice.

J. E. GRIFFITH.

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# EFFECT OF HIGH TEMPERATURE REDUCED BY RAPID EVAPORATION

WHEN temperatures go to the extreme either way people are usually anxious to know what temperature is recorded by the thermometer. The lowest temperature recorded in the United States was 63 degrees below zero at Popular River, Mont., January, 1885. The highest temperature registered in the United States was at Death Valley, Calif., June 30, July 1 and 2, 1891, whe the thermometer reached 122 degrees F.

The lowest temperature recorded at State College, N. M., since 1900 was eight degrees below zero on January 8, 1913, and the highest temperature was 106.5 degrees on June 24, 1902.

The records kept at State College

show rather high temperatures during the months of June, July and August. Since 1902 the average number of times the thermometer has reached 100 degrees or above for the three months is as follows: June 6.35, July 3.59 and August 1.18. The greatest number of times in one month the temperature has reached 100 was in June, 1906, when this temperature was reached on 15 days. In 1912 the temperature of 100 degrees is recorded but once during the entire summer. In 1907 the temperature of 100 degrees was reached 19 times, the greatest number of times during any one year.

### Sensible Temperature Not Same as Air Temperature.

The air temperature, however, as commonly recorded does not necessarily indicate the sensation of heat experienced by a person and therefore cannot be taken as an estimation of the pleasantness of two locations. The term "sensible temperature" is used to describe the approximate temperature felt on the body. It is the temperature indicated by the wet bulb thermometer, which is an ordinary thermometer with the bulb kept wet by being covered with a piece of muslin and immersed in water. The dryness of the air takes up water by evaporation. As evaporation causes loss of heat the wet bulb thermometer will read lower than the dry, providing there is any degree of dryness in the air.

The more rapid the evaporation the greater will be the cooling. Evaporation thus affects, also, the temperature experienced by a person. This temperature during the warm months is generally 20 to 30 degrees lower than the air temperature during the hottest part of the day, and on days when the air temperature is unusually high, the temperature of the wet bulb may be 40 degrees lower. This accounts for the fact that sunstrokes and heat prostrations that occur in our eastern states, and especially in large cities, are practically unknown in New Mexico, although the thermometer often registers higher than in the eastern states.

### Humidity of Air.

There are three terms used in referring to the moisture in the atmosphere, viz., absolute humidity, relative humidity and dew point. The amount of water vapor in the air when expressed in grains per cubic foot of air is called absolute humidity; when expressed in the form of a percentage it is called relative humidity. The relative humidity depends chiefly on the temperature of the air. If we make moist air colder we shall increase its relative humidity without increasing its absolute humidity. If it is cooled sufficiently its relative humidity becomes 100 per cent, which is saturation. The dew point is that temperature of the air at which invisible moisture begins to condense into visible vapor.

### Humidity at State College.

Records of relative humidity have been kept at the college for a number of years, and are probably representative of a considerable part of the southern portion of the state. The average mean relative humidity for the five-year period ending December 31, 1918, is 40.7 per cent. The three months having the lowest mean relative humidity are June, May and April, with mean relative humidities of 26.3, 27.8 and 28.3 per cent respectively. The three months having the highest mean relative humidity for the same period are January, December and August with mean relative humidities of 55.6, 52.6 and 49.6 per cent respectively.

During the months of lowest relative humidity the evaporation from a free water surface is from 10 to 14 inches a month, while during the months of highest relative humidity the evaporation from a free water surface may be less than three inches a month. The annual evaporation at State College is about 80 inches, which is due largely to the comparatively low relative humidity found during the greater part of the year and especially during the warm months.

C. A. THOMPSON.

# SPROUTED OATS

DURING the winter months it is often difficult to obtain green food for the laying hens. The difficulty can always be easily and profitably met by the used of sprouted oats. Although there has been some controversy as to whether the sprouts should be one-fourth of an inch long or longer, that question is immaterial when the main fact is that either the long or the short sprout will give good results.

The method of sprouting oats is not complicated. A tier of trays about two inches deep and with an area of one square inch for each hen to be supplied each day should be provided. These trays should have a perforated tin or wire cloth bottom to allow the surplus water to drain off the oats. One square inch of tray space per hen is suggested, because the trays should be filled about one inch deep with oats which have been soaked for twenty-four hours in a bucket or can, and each hen should have at least one cubic inch of sprouts each day. Then for a flock of fifty hens, a tray five by ten inches will do for each day. More would be better, but this much will do.

Seven trays should be provided if the temperature of the room where the oat sprouter is located does not drop below 60 degrees. The process is then simple. Each day put enough oats to soak to fill one tray. Each day one tray will be emptied and fed to the hens. Feed the tray that is on the bottom shelf each day and move all the trays down one notch. This will leave the top notch for the newly filled tray.

The oats in the trays should be sprinkled with warm water at least once each day, and in some cases twice. If mold should occur in the sprouting trays, a little formalin, or formaldehyde, should be used in the water to scrub out the tray each day before putting the soaked oats in to sprout. Care should be taken to see that the oats do not become too wet in the trays. If plenty of drainage holes are provided, this should not occur. To secure best results, the sprouting frame should be placed near a window where all the sunshine available may be secured. The sprouted oats may be fed at any time during the day.

R. B. THOMPSON.

# LIGHTING THE HOME

THE time of long evenings and increased light bills is upon us. The housewife will do well to give attention to the lighting problem whatever method be used.

### Make Use of Daylight.

It is always economy to make the most of daylight. The light comes into our houses thru the windows. These should be adequate in size, sufficient in number and so placed as to allow all the sunshine possible to enter, especially in winter.

Light enters from above and the upper half of the window lets in more light than does the lower half. Yet the shades are often kept pulled down over the upper half of the window, thus shutting out the greater part of the light. The ideal arrangement, when the expense can be afforded, is to have two shades with the rollers in the middle of the window. With this plan the shades can be adjusted so the light can be shut off at the lower part and allowed to enter at the top where it is most effective. A window placed crosswise high up in the wall of the room will give more light than would be admitted if the window were placed lengthwise in the wall.

Delicately colored or thin white curtains admit a softened light. Thick, dark curtains or draperies shut out the light.

### Electricity Requires Little Labor.

Electricity is convenient and requires less labor than most other forms of lighting. It gives no dirt and little heat. Proper shading will dull the glare of the glowing bulb and help to spread the light thru the room. Tungsten and nitrogen bulbs give more light for the same power than carbon bulbs. The bulbs become dull with use, then less light is given tho the amount of electricity consumed is the same.

Using an old worn out bulb that gives a poor light costs as much as using one that gives a bright light. Dust and dirt on the outside of the glass also dim the light. Burning lights when the room is not in use even for a few minutes brings up the light bills. Cultivating the habit of turning off lights reduces bills.

### The Use of Gas.

Gas is used for lighting in some communities. There are two types of burners, the open flame and the incandescent mantle. Dirty or broken tips lessen the light. The incandescent mantle uses about one-third as much gas as the open flame and gives a better light with less heat. The mantle is very delicate and requires gentle handling. Directions for care and adjustment usually come with them and should be implicitly followed. In use the whole mantle should be glowing white with no flame showing and no black deposit. The proper working of the mantle depends on the air and gas supply and these may need to be carefully adjusted each time the gas is turned on. When gas is used it is necessary to look out for leaks. Escaping gas is dangerous to health and injures furnishings. Any escape of gas is easily detected by the odor. Leaks should be reported at once to the company, but they may be temporarily stopped with a paste of flour and water, soap, adhesive plaster, or tire tape. Cocks that turn easily should be tightened. There should be a stop that prevents the cock from turning all the way around or it is difficult to tell when the gas is completely shut off.

Every member of the family should know where the gas enters the house and how to shut it off in an emergency.

### Care of Kerosene Lamps.

Kerosene lamps with large double or round wicks give an agreeable light when properly cared for. The care, however, adds much to the daily burden of the housewife and the heat of the room is perceptibly increased.

The wick and its tube should be kept free from char. If the wick is rubbed or cut even with the tube it will prevent smoke. The uneven, ragged edges cause smoke. When not in use the wick should be turned down just below the top of the tube so the oil will not ooze over on the tube and smoke when the wick is lighted. The entire burner should be kept clean. Care should be taken that the little holes in the outer part of the burner do not become clogged up and prevent the air from drawing thru, thus causing smoke and odors from oil and dirt. A good way to clean a burner is to scrub it occasionally with a brush and soap and cleaning compounds, then boil it in water to which washing soda has been added. Chimneys should be kept clean. They should be dried completely after washing to prevent them from cracking. The chimney should fit loosely enough so that it will have room to expand when heated. A chimney will last longer if, when new, it is placed in cold water and allowed to come slowly to a boil, and boiled for a few minutes then slowly cooled and thoroly dried.

The tank of a lamp should never be completely filled. There should be at least one-half inch of space left to allow the oil to expand when it becomes heated. A lighted lamp must never be filled. The wick should never be turned to its full height until the flame is well started or it may smoke or crack the chimney.

To extinguish the light, turn the wick down below the tube and let it go out or blow across the top of the chimney. Never blow down the chimney as there is danger of blowing the flame down into the oil.

Where a lamp is to be carried about the house it is safer to have a small metal lamp.

MARY B. RICHARDSON.

## BOYS AND GIRLS MAKE BIG SHOWING FOR 1919

With all reports in the hands of the state leader, the results of boys' and girls' club work for 1919 are more than pleasing.

Altho the number is not as large as in 1918, at which time every boy and girl in the state was raising something to help win the war, the percentage of members completing was much larger. This shows that more efficiency in the work has been upheld and that we are gradually getting to the point where club work counts and our efforts instead of being spread over the entire state have been gradually concentrated into the districts where a desire and need for the work is shown.

In order that you may get an idea of the growth of the work, the following brief history is presented:

The first club organized consisted of seven boys enrolled in a corn club project in 1911, under the supervision of W. T. Conway. In 1912 the work spread to fifteen counties of the state. Closing the work of the second year, the first state club camp was held at Santa Fe, at which five counties were represented.

In 1913 the college ran a demonstration train over the state. The club exhibits of the state winners of the year previous were shown and quite an interest was aroused. As a result nearly a thousand members were enrolled, with the teachers acting as local leaders. A state camp was held this year in connection with the state fair at Albuquerque.

In 1914 the work continued to grow and the same plan for organizing and conducting the work was followed as had been used the year before. In the fall of this year, W. T. Conway, who had supervised club work from its beginning, became state club leader, after completing successfully his fourth year in club work.

The following figures will give the results for the past five years since conducted co-operatively with the United States Department of Agriculture:

| | 1915 | 1916 | 1917 | 1918 | 1919 |
|---|---|---|---|---|---|
| Enrolled | 795 | 1,463 | 1,472 | 5,591 | 2,407 |
| Completed | 58 | 594 | 638 | 3,087 | 1,530 |
| Percentage completing | 7.2 | 40.6 | 44 | 55.2 | 63.5 |

### Supervision of Work.

During the eleven months work, 432 meetings with organized clubs were held, with an attendance of 6,510. These meetings consisted in drill in parliamentary practice, talks on club projects, demonstrations and social features, such as songs, games, etc.

There were 410 field meetings held with an attendance of 6,287. At these meetings the members in the various projects visited fields, poultry and livestock projects, and studied the best methods of doing their work. At some of these meetings farms were visited where an opportunity was given for the boys and girls to study better livestock and better farming methods.

The general meetings consisted of 123 with an attendance of 3,222. These meetings were of a nature of general talks on club work, in getting the work before teachers, parents and business men of the state.

There were 153 demonstrations given in cooking, sewing, seed testing, canning, poultry work, pig work and some miscellaneous garden work.

During the fall 53 club achievement days were held with an attendance of 3,426. At these exhibits were held, pins and prizes awarded and programs held for the members.

Plans have been made for each county project winner to attend the State College Club Congress to be held during farmers' week in January.

## Results of Work in 1919.

| Project | Clubs Organized | Enrollment | Completing | Standard Clubs | Value | Cost | Profit |
|---|---|---|---|---|---|---|---|
| Cooking ...... | 56 | 415 | 247 | 28 | $ 1,999.09 | $ 925.81 | $ 1,073.28 |
| Sewing ...... | 64 | 667 | 336 | 36 | 2,095.31 | 907.19 | 1,188.12 |
| Gardening .... | 44 | 443 | 270 | 13 | 5,016.78 | 1,309.87 | 3,706.91 |
| Canning ...... | 13 | 55 | ... | 1 | 371.75 | 184.78 | 186.97 |
| Pig .......... | 51 | 193 | 197 | 10 | 8,446.50 | 4,220.43 | 4,226.07 |
| Poultry ...... | 50 | 155 | 85 | 10 | 1,599.93 | 602.21 | 997.72 |
| Calf ......... | 17 | 39 | 123 | 2 | 6,659.00 | 5,040.29 | 1,618.71 |
| Sheep ........ | 5 | 32 | 22 | .. | 333.00 | 146.72 | 186.28 |
| Goat ......... | 1 | 2 | ... | .. | ...... | ...... | ...... |
| Rabbit ....... | 29 | 168 | 44 | 2 | 1,027.09 | 554.26 | 472.83 |
| Bean ........ | 22 | 94 | 86 | 3 | 3,811.72 | 809.93 | 3,001.79 |
| Corn ......... | 11 | 37 | 23 | .. | 1,479.65 | 195.31 | 1,284.34 |
| Small grain .. | 4 | 34 | 31 | 3 | 4,295.19 | 714.79 | 3,580.40 |
| Potato ....... | 2 | 7 | 5 | .. | 4.63 | 19.75 | *15.12 |
| Sorghum ..... | 14 | 66 | 60 | .. | 3,460.09 | 543.61 | 2,916.48 |
| Cow ......... | 1 | 1 | 1 | .. | 150.00 | 72.00 | 78.00 |
| Total ...... | 383 | 2,407 | 1,530 | 108 | $40,749.73 | $16,246.95 | $24,502.78 |

*Loss.

## Summary of Crop Areas and Yields.

| | Corn | | Beans | | Sorghum | | Garden | Small Gr. | |
|---|---|---|---|---|---|---|---|---|---|
| | A. | Bu. | A. | Lb. | A. | Lb. | Sq Ft. | A. | Bu. |
| Total from all counties.. | 20¾ | 958 | 92 | 76,855 | 75 | 170,984 | 271,004 | 99 | 2,325 |

## Summary of Livestock Work.

| | Pigs | | Calves | Sheep | Chickens | Rabbits |
|---|---|---|---|---|---|---|
| | No. | Wt. | | | | |
| Total of all counties.... | 339 | 53,613 | 180 | 22 | 1,506 | 648 |

In addition to the work tabulated above, the girls' cooking and sewing work amounted to over $4,000.

This gives briefly the outline of the work conducted in the state during the past year under the supervision of the county agents, home demonstration agents and county club leaders. We are planning to better organize our work for the coming year and with the co-operation of all agencies of the past year, our results should far exceed those of the year just past.

R. G. FOSTER.

## ANNOUNCEMENT OF THE MARKET REPORTER

Beginning about January 1, 1920, "The Market Reporter," a periodical of general interest devoted to marketing information concerning important agricultural products, will be published weekly by the Bureau of Markets. It will be sent free to those interested who make request for it to the Bureau of Markets, United States Department of Agriculture, Washington, D. C., and who give the following information: (a) Name and full address, (b) business or occupation, (c) kind or kinds of farm products in which interested, and (d) the names of periodicals or reports (mimeographed or printed) that are being received or have been received regularly from the Bureau of Markets or any other branch of the United States Department of Agriculture.

## WHAT THE BOYS AND GIRLS WILL DO AT THE STATE ENCAMPMENT

For the first time since the beginning of club work in the state, the county project winners will enjoy a trip and week's short course at the State Agricultural College.

The question many boys and girls

are asking themselves is, "Just what will I do at the college?"

To each boy and girl will be sent within the next few days a complete program of what they will do for the entire week while here. Just briefly here is what they will do:

**Work for Each Day Similar to the Following.**

7:00 Breakfast.
8:30 Morning meeting. Songs and games for 1919.
9:00 General assembly of all extension workers and boys and girls.
10:00 Class work in field crops, gardening, poultry, livestock, etc. for all boys and girls.
12:00 Noon.
1:00 Class work for boys in livestock, poultry, field crops, etc. Class work for all girls in cooking and sewing.
4:00 Playground for all club leaders and boys and girls.
4:30 Boys' and girls' day over. Inspection of college buildings, etc.
6:00 Supper.

**Evening Entertainment.**

After the first evening the boys and girls will be provided with entertainment by the Y. W. C. A. and other organizations.

Here's to a big club encampment, and may this year be a starter toward building up one of the largest gatherings of its kind in the United States.

## REPORT OF THE FIRST NEW MEXICO EGG-LAYING CONTEST FOR THE MONTH OF NOVEMBER

The first New Mexico egg-laying contest has completed the first month, not in a blaze of glory, but rather the opposite. The total cost of feed for the month was $9.10, and the total receipts from eggs sold was $7.55. This indicates a loss of $1.55. On the face of it the conclusions are against the "old hen." Not so, however, since this is the first egg-laying contest in which any of the entrants have ever entered hens. Many of the hens sent were somewhat immature, but during the past month they have made good progress, and the next months will, in all probability, show the balance on the profit side.

Eleven pens were entered in this contest. Before the contest started, one was returned to the owner. This pen was received in a poor condition, all the hens were suffering from severe colds. Four died soon after receiving them, and before they were taken out of the quarantine pen. Upon inquiry for replacement of these hens, the information was secured that this entire flock was sick with colds. The owner requested that his entry be withdrawn and the request was granted. Outside of this there have been but three hens which even had an indication of cold. The hens are all in good health.

The five highest hens for the month are as follows:

| Hen No. | Variety | No. Eggs for Month | Owner |
|---|---|---|---|
| C259 | S. C. W. Leghorn | 16 | Gentry Poultry Farm, Albuquerque, N. M. |
| C258 | " | 15 | Gentry Poultry Farm, Albuquerque, N. M. |
| C281 | " | 11 | Jules Ferguson, El Paso, Tex. |
| C254 | " | 9 | H. Holland, Rogers, N. M. |
| C261 | " | 9 | G. Soulard Turner, Central, N. M. |

The five highest pens for the month are as follows:

| Pen No. | Variety | No. Eggs for Month | Owner |
|---|---|---|---|
| 2 | S. C. W. Leghorn | 38 | Gentry Poultry Farm, Albuquerque, N. M. |
| 7 | " | 30 | Jules Ferguson, El Paso, Tex. |
| 3 | " | 24 | G. Soulard Turner, Central, N. M. |
| 1 | " | 14 | Henry Holland, Rogers, N. M. |
| 14 | Barred Rock | 7 | Neil Sannders Wheeler, Roswell, N. M. |

R. B. THOMPSON,

# Program of Men's Section
## JANUARY 12-17, 1920
### STATE COLLEGE, NEW MEXICO

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**MONDAY, JANUARY 12**

9-11 Enrollment and assignment to classes.
11 12 General meeting. Address by President Crile. Announcements by Director C. F. Monroe.
1-2:30 The Farm Horse (judging)—J. L. Lantow.
1 2:30 Judging Dairy Cows—O. C. Cunningham.
2:35 4 Vegetable Growing—Fabian Garcia. Including—Climatic and soil requirements, varieties and adaptability to locality, preparation of soil, manner of planting, cultivation and harvesting.
2:35 4 Breeds and Varieties of Poultry, Their Differences and Adaptability—R. B. Thompson.

**TUESDAY, JANUARY 13**

9 10 Address—President Crile.
10-11 The Value of Pedigree—L. Foster.
10-11 Dairy Herd Improvement—O. C. Cunningham.
11-12 Shade Trees and Ornamentals—Fabian Garcia. Including adaptability of varieties of shade trees, evergreens, flowering shrubs and vines.
11-12 Soil Management—C. A. Thompson.
1-2:30 Essentials of the Beef Type (judging)—President Crile.
1-2:30 Selecting Dairy Bulls (judging)—O. C. Cunningham.
2:35 4 Soil Laboratory Work—C. A. Thompson.
2:35 4 Fruit Growing—Fabian Garcia. Including best varieties under different climatic conditions, planting, preparation of soil, cultivation and preparation for market.

**WEDNESDAY, JANUARY 14**

9-10 Address—Representative U. S. Department of Agriculture.
10-11 The Use of Self-feeders for Hogs—John M. Evvard.
10 11 Feeding Dairy Cows—O. C. Cunningham.
11 12 The Cereals—R. L. Stewart.
11-12 Poultry Management on the Farm—R. B. Thompson.
1-2:30 The Selection of Hogs for Breeding—John M. Evvard.
1 2:30 Testing Milk and Cream—O. C. Cunningham.
2:35 4 Seed Testing and Seed Treating Laboratory—R. L. Stewart.
2:35-4 Codling Moth Control Methods and Prunning Laboratory Practice—Fite.

**THURSDAY, JANUARY 15**

9 10 Marketing Farm Products—C. A. McNabb.
10 11 Hog Pastures—J. M. Evvard.
10 11 Milk Sanitation—O. C. Cunningham.
11 12 Silage Crops—George Quesenberry.
11 12 External Parasites—Dr. E. P. Johnson.
11 12 External Parasites—Dr. E. P. Johnson.
1-2:30 Results of Inbreeding and Crossing—L. Foster.
1-2:30 Testing Milk and Cream—O. C. Cunningham.
2:35 4 Tractor Operation—Powers.
2:35 4 Why and What to Feed Farm Poultry—R. B. Thompson.

**FRIDAY, JANUARY 16**

9 10 Address—Edith Salisburry, U. S. Department of Agriculture.
10 11 Methods of Compounding Livestock Rations—L. Foster.
10 11 Methods of Controlling Crop Pests—Griffith.
11 12 Diagnosis and Control of Common Animal Diseases—Dr. E. P. Johnson.
1 2:30 General Livestock Judging—President Crile and others.
2:30 4 Use and Abuse of the Automobile—Powers.

**SATURDAY, JANUARY 17**

9-10 Address—President Crile.
10 11 Personal Conferences With College and Experiment Station Staff.
11 12 Achievement Day for County Club Champions. Awards presented by Miss Gertrude Warren, U. S. Department of Agriculture.

In addition to the above program there will also be a complete program for the women and the boys' and girls' clubs.

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The farm bureau women of District 41 of Union county have planned a study program for their meetings this winter. This program consists of subjects that are of vital interest to the homes and communities.

The farm bureau women of Dona Ana county are giving their attention to soap making this winter. With soap at 7 cents a bar, they find this a profitable method of disposing of their scraps of fat meat, cracklings, etc.

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# THE NEW MEXICO FARM COURIER

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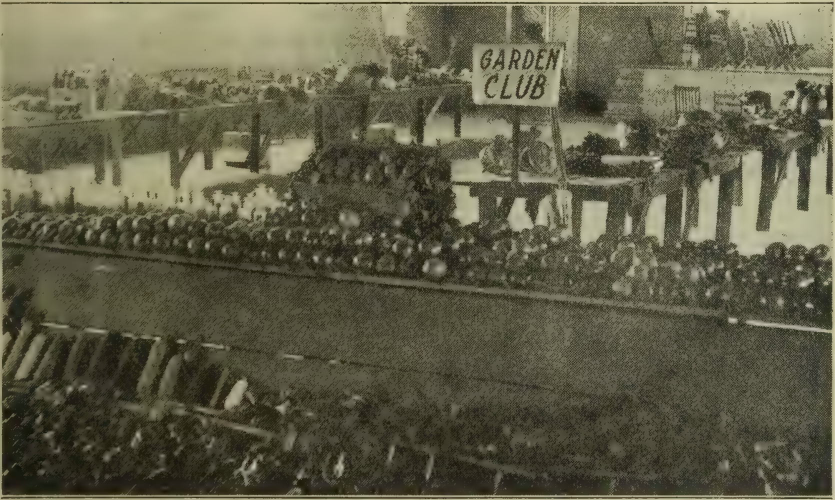

GARDEN EXHIBIT AT THE LAS VEGAS CLUB FAIR

Published Monthly by the Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M., and United States Department of Agriculture, Cooperating.

# THE NEW MEXICO FARM COURIER

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AUSTIN D. CRILE, President of College.
FABIAN GARCIA, Director of Experiment Station.
C. F. MONROE, Director of Extension.

**EXTENSION STAFF.**
**Administration.**

C. F. Monroe..................**Director**
W. L. Elser...........Assistant to Director
L. H. Hauter, Extension Editor.

**County Agricultural Agent Work.**

J. W. Knorr, State Leader, State College.
H. C. Stewart, Bernalillo Co., Albuquerque.
J. R. Thomas, Chaves Co., Roswell.
W. H. Sawhill, Colfax Co., Raton.
E. Peterson, Curry Co., Clovis.
L. P. Briggs, De Baca Co., Fort Sumner.
G. M. Clark, Dona Ana Co., Las Cruces.
A. Z. Smith, Eddy Co., Carlsbad.
R. R. Robinson, Grant Co., Silver City.
D. F. Laubmann, Guadalupe Co., Santa Rosa.
A. L. Tarlton, Lea Co., Lovington.
Stuart Stirling, Lincoln Co., Carrizozo.
A. C. Heyman, Luna Co., Deming.
H. P. Powers, McKinley Co., Gallup.
Serafin Abeyta, Mora Co., Mora.
Leslie Beaty, Otero Co., Alamogordo.
E. M. Yates, Quay Co., Tucumcari.
———— Rio Arriba, Tierra Amarilla.
J. B. Petersen, Roosevelt Co., Portales.
Eliseo C. Gonzales, Sandoval Co., Bernalillo.
J. M. Ramirez, Santa Fe Co., Santa Fe.
H. S. Moles, San Juan Co., Aztec.
M. R. Gonzalez, San Miguel, East Las Vegas.
P. J. Smith, Sierra Co., Hillsboro.
H. M. Aragon, Taos Co., Taos.
J. G. Hamilton, Torrance Co., Estancia.
Orren Beaty, Union Co., Clayton.
R. S. Conroy, Valencia Co., Los Lunas.

**State Extension Specialists—State College.**

Dr. E. P. Johnson, Veterinarian.
C. A. McNabb, Marketing.

**Boys' and Girls' Club Work—State College.**

Robert Foster, State Leader.
W. T. Conway, Canning and Drying.
Elizabeth Koger, Assistant Leader.

**County Home Demonstration Work.**

Mary B. Richardson, State Leader, State College.
Lucille Woodard, Chaves Co., Roswell.
Sarah Van Vleck, Doña Ana Co., Las Cruces
Edith M. Hurley, Union Co., Clayton.

# EDITORIALS

**By PRESIDENT CRILE**

## 1920

The year 1919 will be remembered in the history of New Mexico as the first really successful year of agriculture in the state. It comes as a real sensation to get reports from single counties of New Mexico whose products in cash amount to from one to five million dollars. It is easy to see, where the buffaloes and the cattle had grazed, as much as 480 acres in a solid corn field, yielding splendid Indian corn, which I have seen in the state; to hear of dairy cattle, dairy calves, registered hogs, the feeding of sheep and cattle, the selling of wheat, oats, milo, and kafir, the shipping of hay and Pinto beans, to say nothing of a million dollars' worth of chili. When reports of this sort begin to come in to the College from our county agents and specialists, New Mexico has begun to show the symptoms of productivity in the general line of agriculture. This year has made sure many a man's future home in this state. We certainly trust that 1920 may bring again the blessed rain which will again bring us prosperity. Many settlers and farmers of New Mexico have been so hard pressed heretofore that they could not be economical. Their situation is now changed. They can begin to plan for economical operation on their farms and of their business, and gather around their places poultry, live stock, and have the attractions and comforts that a farm home should afford.

The interesting feature of the situation is that in spite of this large increase in agriculture, there is no decrease, except by reason of the drouth in certain sections, of the cattle and sheep of the state, as compared with a few years ago. The cattlemen and sheepmen are waking up to the proposition of producing their own supplementary feeds, rather than depending entirely on cake.

We must all, however, remember that the year is coming—we know not just how soon—when we shall have another year of drouth. We should be prepared against that time. The man who will survive the drouth with the least damage and trouble is the man who has laid ahead some feed, as ensilage and grains, and has saved by some little excess cash; so that the year that comes to test him will not find him wanting. With the handicap of the drouth, but the advantages of our climate, of cheap land, and of good people, New Mexico is a happy place in which to make our homes.

## COTTON

Cotton-growing in the southern irrigated portions of New Mexico has come forward with great enthusiasm. The Salt River valley of Arizona has made an undoubted success of cotton growing. The annual income per acre of land and the profits have been so splendid that lands in the Salt River valley have doubled and trebled in value in the last two years. In the lower Pecos valley, under the Reclamation Project in Eddy county, with headquarters at Carlsbad and Loving, cotton has been grown for a number of years. I remember, years ago, when my old friend F. G. Tracy told me, with enthusiasm, about cotton-growing in that valley; but since Tracy has been running, lone-handed, an experiment station in Eddy county, for many years, and I was at that time conducting a small and much younger experiment station at Roswell, I rather took his statement with suspicion. The present situation in Eddy county, which this year has produced a two-million-dollar crop of cotton, confirms the early predictions made by Pioneer Tracy.

South of El Paso and in a few instances north of El Paso, cotton has been grown commercially, and with marked success. The College has grown this crop successfully for four years. Each year the cotton has matured well, the quality has always been such as to bring a premium, from the experimental data the yields have been large, and the indications of handsome profits per acre are very clear.

Now it is proposed to extend the cotton area over wide districts. I wish to make a few remarks as touching the new fields proposed for cotton. In the first place, there will be a good many people who will become enthusiastic regarding the crop and plant it, but will not take the trouble to prepare the ground properly, secure a stand, properly chop it out, keep out the weeds, put water on when it should have it, and not even pick it when it should be picked; so there will be a considerable number of enthusiasts this winter who will be pessimists next fall. We must expect a large percentage of this sort of farming. Again, there will be those who go at it conservatively and carefully; and if they will plant at the earliest possible time that the weather is sufficiently warm and the ground warm, cotton has a long enough growing period under the Elephant Butte Dam, over in the Deming district, and in the Pecos valley, beginning just north of the Berrendoes. There is no doubt but that the growing season and temperature of the weather, which have all been well checked, would warrant the planting of cotton in these areas.

Those who have grown cotton heretofore, in Texas or elsewhere, must be reminded that growing cotton under irrigation is the ideal condition, but is very considerably different from growing cotton under humid conditions; so that the man who has not grown cotton and the one who has, both must learn to get best results from the crop under irrigation.

My advice is that no one should plant an excessive acreage; that five or ten per cent of the open crops on a farm of forty acres or more should be put to cotton the first year, so that experience might be gained and a good beginning made.

I predict that the valleys above described will enter cotton-growing as a permanent industry. The home of cotton was under irrigation, in an arid climate, and there is where it will do best, regardless of any one of the Southern cotton-growing states. We shall learn a great deal regarding the time of application of water and the bringing forward of results; and shall have a splendid, dry fall, with few exceptions, in which to pick the cotton. The growing of this crop in the southern irrigated portions of New Mexico should have a very large and splendid future.

# PRESIDENT CRILE TO LEAVE THE COLLEGE

Dr. Austin D. Crile, for the past three years president of the New Mexico College of Agriculture and Mechanic Arts, has resigned. He has asked that his resignation take effect March 1.

When President Crile tendered his resignation to the board of regents several weeks ago it come as a complete surprise, not only to the board, but to the faculty of the College, as well. Dr. Crile's reasons for leaving the work are of private nature. He expects to go back to farm life at Roswell where he was located when he was persuaded to take the presidency of the College three years ago.

President Crile's administration of the College has been extraordinarily successful and it is probable that greater progress has been made during these three years than during any other similar period in the history of the institution. His seven years of farming experience under New Mexico conditions before coming to the College gave him an insight to the problems of the New Mexico farmer, and he was quick to bend every effort to make the school serve the best interests of the entire state.

During his administration the College student enrollment has increased from 212 to 454. The faculty, including extension workers, has increased over 60 per cent. Agricultural agents have been placed in all but one county of the state, three counties have home demonstration agents, and six are to have permanent county club leaders.

The character of the College livestock has been greatly inproved, so that the school now has individuals of type and breeding that it can well be proud of. The College farm has also been placed on a much more efficient basis. Four new livestock farms and an auto shop have been built, adequate irrigation and sewer systems installed, and an addition to the engineering building is now being constructed. The dormitory and boarding facilities have also been materially increased. The general appearance of the campus has been improved immensely.

During the war the facilities of the College were thrown open for war service and 506 soldiers received their training here. President Crile was also responsible for getting a special appropriation from the United States Department of Agriculture for the erradication of prairie dogs and predatory animals, which has meant a great deal to the state. Several important agricultural laws have also passed largely because of his influence.

That President Crile chose to resign is generally regretted; especially by the members of the faculty, and extension force who have had an opportunity to work under him. The fact that he is to remain in New Mexico, however, gives assurance that he will continue to be a booster for the Agricultural College and work for the development of the state. His successor has not been appointed.

FOR SALE: 2 young Holestein bulls and 3 Guernsey bulls of good breeding, by Dairy Department, State College, New Mexico.

# COUNTY FARM AND LIVESTOCK BUREAUS OF NEW MEXICO FEDERATE

**Delegates From 15 County Farm Bureaus Spend Week of January 12-17 at State College and Outline State Bureau.**

The New Mexico State Farm and Livestock Bureau was launched last week at State College when 15 of the 18 county farm and livestock bureaus of the state had delegates present to consider plans and outline a definite work for such an organization.

The objects of this organization are clearly set forth in the constitution adopted by the delegates present, which shall correlate and strengthen the county farm and livestock bureaus and other organizations of farmers and stockmen of the several counties in a state federation to promote, protect and represent the business, economic, social and educational interests of the farmers and stockmen of the state.

**Definite State Projects to be Adopted.**

The constitution further provides that the objects of this organization shall be effected thru the adoption and promotion of definite state projects. These projects shall be based on the results of a careful study of the projects of the county bureau, as well as those initiated by the directors. They shall be formulated and directed by the executive committee of this bureau in co-operation with the director of extension of the New Mexico College of Agriculture, or such person or persons as may be designated by him.

The delegates first got together on Monday, January 12, to consider whether or not it was the desire of the various farm bureaus to federate into a state organization. County Agent Leader Knorr called upon each of the delegates present for an expression and found that they were all unanimously of the opinion that the delegates present should proceed to organize.

R. C. Reid of Chaves county was chosen as temporary chairman, with Mr. Collyer of San Juan as temporary secretary. A committee of five was appointed by the chair to draft the constitution and by-laws. This committee was composed of Carl Mueller of Roosevelt county, F. I. McKamy of Dona Ana county, S. G. Calisch of Quay county, A. C. Pacheco of Taos County and Charles Beasley of Otero county.

The program of work covers such matters as livestock improvement, crop improvement, marketing, irrigation and drainage, farm labor, taxation and legislation, county farm bureau organization and home improvement.

**R. C. Reid Chosen as President.**

R. C. Reid of Chaves county was chosen as president of the organization, Mrs. W. C. Fisherdick of San Juan county as vice-president, and S. G. Calisch of Quay county as secretary-treasurer. The executive committee is made up of seven members, each member assigned to a definite part of the program of work. Members of the executive committee and their assignments were as follows:

Chairman, R. C. Reid, Chaves county; S. G. Calisch, Quay county, livestock improvement; F. I. McKamy, Dona Ana county, marketing, irrigation and drainage; Will H. Pattison, Curry county, crop improvement; Carl Mueller of Roosevelt county, farm bureau organization; A. C. Pacheco of Taos county, farm labor, taxation and legislation; Charles Beasley of Otero county, home and orchard improvement.

The by-laws of the organization provide that each county farm bureau must pay dues into the state federation at the rate of 20 cents for each county farm bureau member, with a minimum of $20 for each county.

Thus one of the largest organizations in the southwest was started with definite work to do and in charge of New Mexico's most prominent agricultural men. The organization has been needed for a long time and will be in a position to render a big service to the several county bureaus.

Twelve resolutions were adopted by the organization.

While at the college the delegates were entertained by the Dona Ana county farm bureau in the form of a big banquet in Las Cruces, which was thoroly enjoyed and appreciated by them.

**County Bureaus Need Strengthening.**

The discussions during the week brought out the fact that there is need for an immediate strengthening of the several county farm bureaus. In order to do the most effective work the state federation must have strong county bureaus actively at work in the counties.

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Organization is the key to successful community and county rural development work.

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"The average man learns from his own experience; the wise man learns from the experience of others."

---

Are you getting as much as you should from your county agent? He is in touch with state and federal workers in agriculture and can get their information for use on your farm. Let him help you.

# CONTROL OF SAN JOSE SCALE

The San Jose scale attacks may different kinds of trees and shrubs but is most often found upon apple, peach and pear trees. The mature scale is small, circular in outline and when it first appears it is very difficult for one to detect it because these circular armors are about the size of a fly speck. The pest matures in about a month and is very prolific. A bad case of incrustation should be readily seen by any fruitgrower, for these armors form a gray scurfy covering over the bark. The presence of the insect can be detected by running the fingernail over the infested area. If a yellow liquid, which consists of the crushed bodies of the insects, appears, one can be certain of the presence of live scale. The scale on the fruit is easily seen, for a deep red coloration appears about the point of attack, generally near the blossom end.

All trees and fruits should be carefully examined from time to time and if any questions arise as to the identity of the scale, samples of twigs should be sent in to the Experiment Station for examination. It is a waste of time and money to spray for scale that is not there and, of course, it is dangerous to allow the orchards to go unsprayed where the pest is found. It is very essential then, that one must first make sure of the pest.

### Method of Combating This Scale.

There seems to be only one practical method of combating this orchard pest. This consists of the application of a strong spray during the dormant season. At this time it is possible to make the spray strong enough to kill the insect beneath the scale and yet not injure the trees. Summer spraying for the scale is not effective enough to be worth while.

### The Use of Lime-Sulphur

There are two types of scale washes, —lime-sulphur and oils, Either, if properly applied, is very effective in the control of scale, altho the lime-sulphur possesses fungicidal properties which the oils do not have. Oils spread better and are not so unpleasant to apply as lime-sulphur. Lime-sulphur may be made according to two formulas—ready-to-use and the concentrated. Press bulletin number 306 gives every detail of preparing of both formulas. A copy of the bulletin may be procured by writing to the Experiment Station, State College, N. M. To determine the amount of the dilution, one should have a hydrometer made especially for testing lime-sulphur sprays.

If a grower is properly equipped for preparing his spray materials at home, he can do so for less than commercial preparations will cost; but if only a small quantity is needed or if he does not have the necessary equipment, it is better to secure one of the standard high-grade commercial brands.

### Making Oil Emulsion

A home made oil emulsion can be made very simply by boiling four pounds (more if water is very hard) of hard soap in four gallons of boiling water until all is dissolved. Then pour the four gallons of boiling suds into a spray barrel containing between 8 and 10 gallons of coal oil. Agitate by pumping the solution thru nozzle back into the barrel until oil is thoroly emulsified. If solution does not separate on cooling, it is emulsified, and ready to use. Then add enough water to make 50 gallons before applying. If standard commercial miscible oil or scalecide is used it should be diluted at the rate of one gallon of the solution t from 14 to 20 gallons of water.

### Thoro Spraying is Necessary.

In the control of the scale, thoro application is most important, for the scale must be touched with the spray if it is to be killed. It will take 5 or 10 gallons of the solution to cover a large-bearing tree thoroly.

This pest can be easily controlled at a slight expense and every farmer or fruit grower should secure a sprayer to suit his needs. He should buy or prepare spray materials as directed, select the most favorable time in late fall or early spring and spray thoroly.

From results secured here at the Station it has been found that in case of a badly infested orchard, two applications are necessary, one in late fall and one in spring before the buds open. When one spray is used, one can expect about equal results with late fall or early spring sprays. Since the winds in New Mexico are so severe in early spring better results could probably be secured by spraying late in the fall.

J. G. GRIFFITH.

# CO-OPERATIVE ORGANIZATION

There never has been a time perhaps, in the history of this country, when so much interest has been shown in coöperative effort among farmer producers as now, nor has there ever been a time before when such a movement was more opportune.

There are thousands of able bodied men in the United States who could safely be classed as needless, and I might say undesired middlemen, who, operating as they do, are really human leeches or parasites. I do not wish to be understood as including all middlemen in this category for there are many very important middlemen with whose valuable service we could not dispense except at a very decided loss.

The type of middlemen I have reference to is the one who is performing a requisite duty in the chain of agricultural marketing activities for which he exacts his "pound of flesh," that could, thru organized cooperative effort, be performed to a very decided advantage by the producers themselves.

### Cooperation Saves $135,000

The writer recently had occasion to figure out the estimated savings in dollars and cents that had come to the producers of New Mexico thru cooperative organization effort for the current year, coming directly under his observation. The calculation shows such net saving to amount to the snug sum of one hundred thirty-five thousand dollars.

There are several lines of agricultural and livestock activities in this state which, when organized for the cooperative marketing of their products, would increase the above estimate an annual saving of more than a half million dollars per annum. I have particular reference to wool, mohair and apples, and to these industries we expect to devote our major effort in the succeeding months.

### Secretary Houston Advocates Cooperation.

In an address before the National Association of the Commissioners of Agriculture at Chicago on November 11, D. F. Houston, Secretary of Agriculture, is quoted as follows:

"There is no question that everything which can legitimately be done to eliminate waste in marketing and to promote orderly distribution should be done. Certainly we can proceed further by state, federal and individual action in standardizing the production, the handling and the packing of farm products, and in promoting the use of standard containers and proper storage on farms, in transit and at the market centers.

"Particularly must the federal and state agencies omit nothing to promote helpful farmers' cooperative associations. Already within a generation many such bodies have adopted and expanded rapidly. It is estimated that such associations in this country now market annually approximately 1,500 million dollars' worth of commodities. The indications are that with the continued success of these enterprises and with the proper educational effort and direction, they will develop even more rapidly in the future.

"The rational program would seem to be to expand activities which have clearly demonstrated their value, to follow the scent, as it were, and to further develop the machinery thru which increased assistance may be furnished.

There is great need at this time for the farmers, fruit growers, and sheep and goat raisers of New Mexico, to apply themselves to a careful consideration of this subject if they would get all that is coming to them.

C. A. McNABB,
Field Agent in Marketing.

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One advantage of farm book-keeping: The farmer knows and doesn't guess he's paid a bill when the question arises.

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In many of the counties, the work has developed to such an extent that the farm bureau is employing more than one worker to assist in developing the bureau program.

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Talk to your county agent about your farm problems. He will be glad to give you any assistance possible, and place you in touch with those who can help you over your difficulties.

# GROWING GARDEN PEAS

Peas belong to the cool season crops and will stand considerable freezing weather. The results obtained at the New Mexico Experiment Station show that field peas are considered hardier and will stand more cold than the garden peas. In New Mexico Station Bulletin No. 99, the results of the experiments with field peas was given. These show that when the seed was planted in October the plants grew too large and too succulent to withstand a temperature of 10 degrees F., which occurred on January 30. But when they were planted in December and January, they were not affected by any of the minimum temperatures that came later on in the season; and they made excellent growth during the late winter and early spring, maturing early in the season.

### Garden Peas Must be Planted Later

On the other hand, garden peas because of their susceptibility to cold must be planted later than field peas. The results at the Experiment Station show that during normal seasons garden peas may be planted in January or February; but when planted at this time, they generally germinate and make a fast and succulent growth before the danger of frost is over. Should there be no cold temperatures during this period of growth, it is desirable to plant at this time, but in case there should be some severe temperatures during the middle and last of March, the chances are that the succulent growth which has been made up to this time, especially by the early ripening varieties, will all be killed. In such case the field would have to be reseeded. There is always danger of planting peas a little too early because there is more or less danger of severe cold temperatures towards the last of March in the lower and warmer irrigated valleys.

### Results at Experiment Station

The experiments conducted at the Experiment Station in 1918 show that garden peas planted on January 26 were coming up by the 20th of February. On the 23rd of February, the varieties First and Best, American Wonder, Note's Excelsior, Dwarf Champion and Alaska were well up. On March 3rd, all of these varieties were making considerable growth, and by March 17th, the growth was from three to five inches in most of the varieties and it was quite succulent. On the 17th and 18th of March, the temperature dropped to 23 degrees and 18 degrees respectively. These temperatures were fatal to practically all of the varieties planted. The Telephone, which seems to be a little the hardier, was about fifty per cent killed. These killing temperatures made it necessary to plant all of the varieties again; but this time it was a little to late for best results, as the crop came on a little too late in the season. The best time to plant garden peas, under climatic conditions such as those at the Experiment Station, seems to be from the middle to the last of February. Since it takes about two weeks for germination, there will be no danger of the plants being too succulent should there be severe temperatures during the latter part of March.

Care should be taken wherever garden peas are planted that they do not make too succulent a growth before the danger of low temperatures are over. In the southern part of the state, frequently very severe frosts occur during the latter part of March, and occasionally during the early part of April. Farther north, and in the higher altitudes the late spring frosts occur later than this, and the grower should take this fact into consideration in the planting of garden peas.

The Alaska, First and Best, American Wonder and Premium Gem are some of the earlier garden peas. These are not as prolific as the Dwarf Champion, Everbearing, Stratagem and Telephone, which are a little later, and, as a rule, more resistant to killing temperatures.

FABIAN GARCIA.

"To say little and perform much, is the characteristic of big minds."

You know how scarce hen's teeth are? Then give plenty of grit to grind the feed.

# THE SILO, AN INDICATOR OF PROGRESS

"When passing thru a farming community I judge its progress by the number of silos I see", was a remark recently made to the writer of this article. No doubt most persons who are conversant with agricultural conditions will agree that this basis of judgment will seldom lead one far from the proper conclusion. Yet it is said that in 1882 the United States Department of Agriculture could find only ninety-one farmers in this country who had silos.

No stronger evidence of the silo's value can be given than the fact that it has become so common in this comparatively brief time that observing persons will judge a community by the number it has.

### Why the Silo Is Esteemed so Highly.

What are some of the reasons that it has secured so firm a place in modern agriculture?

One of the first things that can be said for the silo is the fact that it furnishes a succulent feed. It preserves the plant in a juicy, palatable condition for any season of the year, which is relished by the animal just as the human species appreciates the juicy apple during the winter months. Like the apple, the silage is slightly laxative and acts to a considerable extent as a conditioner.

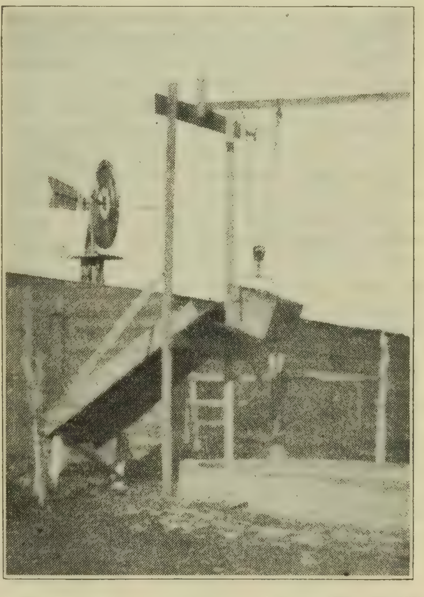
### An Economical Means of Handling Crops

The silo furnishes an economical means of handling the crops most commonly used for silage, such as corn and the sorghums. When corn is cured in the shock under ordinary farm conditions, the loss of dry matter is approximately 25 per cent and may be as high as 45 per cent. These losses are due to the breaking off leaves by the wind and in handling, and to destructive fermentations. The loss of dry matter in the silo is very slight when the silo is tight and the silage well packed at the time of filling. As silage the corn stalk is all consumed, while as stover only the leaves will be eaten unless it is shredded and even then a great part of the stalk will be discarded. Some feeding experiments show the portion discarded to be as high as 31 per cent even with shredded stover. This is in addition to the loss of dry matter during the curing process.

The silo furnishes an economical and convenient means of storing feed. An acre of field corn stored as compactly as possible will require ten times as much space as when placed in the silo. When the silo is properly located no feed can be more conveniently fed.

### Silage Keeps Almost Indefinitely

Silage will keep almost indefinitely when the silo is tight and the silage well packed at the time of filling. This makes the silo well adapted to tiding over years of drouth in dry farming sections. The man who has an extra silo and puts up twice as much silage as he needs in the year when crops are good will be insured against lack of feed the following year even tho crops fail.



**Pit silo with dumping device on the farm of Neal Oyster, Sedan, N. M. With this device one man can feed a large herd with only one entrance into the silo.**

While corn and the sorghums are the popular, and at altitudes where they can be grown, the most satisfactory crops for the silo, many crops can be used. Oats and peas are often used in high altitudes, but probably the most satisfactory high altitude silage plant is the Russian sunflower. It requires only a short season for growth, makes a large yield and a silage of satisfactory quality.

O. C. CUNNINGHAM.

# FIELD PEAS FOR PIG PASTURE

The value of field peas as a grazing crop for pigs does not seem to be generally appreciated by New Mexico farmers, particularly by those in the southern part of the state, which has an advantage over the northern part in the matter of early planting and having the crop ready for pasture much earlier in the season. In the southern valleys of the state, field peas grow most successfully when planted early, not later than the first of February, but still earlier is better, for peas make their best growth during the cool weather of the late winter and early spring, and if ready to blossom by the time warm weather comes on they will give a larger crop of seed than if planted later. The late plantings are apt to give a heavy growth of vine and a light seed crop, which does not make them as valuable a feed.

The variety that does the best here is the Taos field pea, also known as the San Luis Valley pea. Farmers desiring to plant this variety can very likely secure seed thru Mr. M. R. Gonzalez, county agent at East Las Vegas, or Mr. H. M. Aragon, county agent at Taos. In our experience, 60 pounds per acre planted with a seed drill gave a good stand, covering the ground completely by the time the crop matured. When sowed early they make good pasture quite early in the spring, but as a rule, it sems more economical to grow other crops, such as winter rye or barley, for pasture and reserve the peas until fairly matured because of the greater feed value at that stage of their growth. In an experiment at the College, an acre of field peas made a gain of 380 lbs. when pastured by 60 lb. pigs without any supplemenatry feed. The pigs were not given the run of the whole pasture at once, but were retained on a portion of it by a hurdle fence which was moved as often as necessary to keep them supplied with an abundance of fresh vines and peas. This crop planted early will be sufficiently matured by June for pasturing the spring litters of pigs immediately after weaning. It makes excellent feed for that purpose because of the large per cent of bone and muscle making nutriments it contains. A pea crop also adds nitrogen to the soil and puts it into good condition for other crops that may follow.

LUTHER FOSTER.

# TREATING SEED WHEAT FOR SMUT

During the past few years a campaign of education has been carried on thruout the state in an effort to minimize the losses to the farmers from stinking smut or bunt of wheat. In many instances this campaign has been very successful, and as a result, the wheat has been materially increased in quality, as evidence by better prices paid by millers and grain dealers. However, there is yet considerable work to be done along this line. No farmer should plant seed of doubtful quality in regard to smut.

Owing to the very minute size of the smut spores they are not readily detected with the naked eye, and for this reason it is often overlooked and what is supposed to be clean seed is planted, and as a result an excellent crop of smut harvested where smut-free wheat could have been harvested if a little pains had been exercised, in treating the seed before planting. There are several methods of seed treatment that are effective, but the one that has been found the simplest, cheapest and most effective, is what is known as the formalin treatment. It wil help to prevent:

1. Stinging smut or bunt of wheat.
2. Loose smut of oats.
3. Covered smut of oats.
4. Covered smut of barley.

This treatment is safe, there being but little danger of doing injury to the vitality of the seed. In fact, there is absolutely no danger if directions are followed carefully. The cost of treatment is small. Forty per cent formaldehyde sells at about 50 cents per pound, and one pint poured into 40 gallons of water will treat about 40 bushel of seed; or at a cost of a fraction over a cent per bushel, for the treatment exclusive of labor.

### Treatment

Mix one pint of 40 per cent formaldehyde with 40 gallons of water. The seed may be dipped into the solution in a basket or sack, or the solution may be sprinkled on the grain. The essential point is, that all the kernels are wet thoroly.

If the grain is sacked and dipped into the solution is should be allowed to stand ten to twenty minutes; then placed so that it will drain into the tank or barrel; then spread out to dry. If the sprinkling method is practiced, the wet grain should be made into a pile, covered with sacks or a wagonsheet and allowed to stand for about half an hour. In treating oats and barley, the latter should be done regardless of the method used in wetting the grain.

### Caution

Care should be exercised not to contaminate the treated grain by placing it in the sacks from which the smutted grain was taken. Dip the sacks into the solution, and thus kill all the smut spores. Wash the seed box and tubes on the grain drill with the solution before planting the treated grain. If the grain is planted before it is thoroly dry, the drill should be set to plant a few more pounds per acre thus allowing for the swelling which takes place when the grain is wet.

RUPERT L. STEWART.

## Timely Hints on Cold Frames and Hot Beds

The time is at hand when every truck grower or farmer who expects to grow a garden must decide on the crops he is to grow during the coming season, as the profit in many of these crops is dependent upon the production of good strong stocky early plants for transplanting in the early spring. In order to produce these plants in any quantity, it is necessary to prepare some type of either a cold frame or hot bed. In the warmer valleys the cold frame is very satisfactory. In fact, the hot bed is hardly known in southern New Mexico However, in the colder districts the efficiency and value of the cold frame can be greatly increased by coverting it into a hot bed. This can be very done by simply shoveling out about two and one half feet of the soil, and putting in about two feet of fresh horse manure mixed with a little straw, and covering the manure over with about six inches of good soil. Fill the bed so it will be a little higher in the middle as the middle will tend to settle down a little after it has been wet and fermentation sets in. The seed should not be planted for about a week after the hot bed has been well wet down, in order to allow the heat to become regular, and injurious gases which are given off at the beginning to escape.

The cold frames and hot beds should be located on the south side of a building, or some structure that will protect them from the north. They should run east and west, and slope to the south.

### Construction

A good frame can be built by using two by twelve inch lumber for the north side and two by six inch material for the south side, giving about a six inch slope. Glass is the most common and efficient covering to use, and the standard and most convenient size for the sash is three by six feet. Therefore, the frames should be six feet wide and as long as desired, in multitudes of three feet, so the sash will fit evenly. Two by four inch braces should run every six feet, to serve both as a brace and an aid in placing and removing the sash.

The yield of such plants as chile and tomatoes that bear until the frost kills them is determined by the earliness with which the plants are started. Also the price of tomatoes is often about ten cents a pound for the first of the crop, and from one to two cents a pound for the last of it. Other plants that can be started to advantage in this way are cabbage, cauliflower , lettuce, sweet potatoes, egg plant and celery. A. B. FITE.

# TIME TO FIGHT POULTRY "BLUE BUGS"

Now is the time for farmers who have poultry to make a clean up of all parasites which infest their fowls during the summer. It is not an uncommon thing for some people to allow the chicken house to winter thru without attention and then be amazed when the hens are covered with lice, ticks and fleas during the next summer. These parasites do not appear spontaneously, they must have some source of origin and that is from adults which are allowed to winter over in the protection of dirty poultry houses and yards. Two or three good cleanings during the winter will be a greater thing than a dozen during the season when these parasites are multiplying rapidly.

### How to Proceed

Ticks or "Blue Bugs" is one of the biggest problems poultry keepers in the southern and central part of this state have to meet. In the winter the adults crawl off into hiding and do but little in the way of increasing the population. They do however make frequent raids upon the fowls for food. By removing the battens, perches, nests and everything else loose, or that may be taken off the house, and getting into the cracks first with a good dose of boiling lye water and then in a few days with kerosene and following this up with Carbolineum or Reilly's Poultry Spray it is possible to practically eliminate the ticks from the house. At the same time give the yard and floor of the house a good renovating. If the floor of the house is of dirt take of a few inches and exchange it with some fresh soil from the garden, both places will be benefited by the trade. This will also have a strong tendency to eliminate the stick tite fleas who are putting in the winter resting in the dirt floor. If the house has a wooden floor a good soaking with kerosene will be of material benefit, wood floors however are not entirely satisfactory except in portable houses which are moved to a new location at least once each year.

Do not clean the house and yards without cleaning the fowls. Dust them thoroly with a good tobacco dust lice powder, sodium flouride or Lowry's lice powder. Repeat the dusting process in about eight days and if the fowls were burdened with an exceedingly large population of lice the dusting may be necessary the third time in about eight days after the second application.

In all events give the hen a fair chance, a good clean house and yards, clean and nourishing food and plenty of clean fresh water. She will do the rest.

B. B. THOMPSON.

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## PROGRESS REPORT OF THE FIRST NEW MEXICO EGG-LAYING CONTEST

During December, the second month of the contest, 31 of the 50 hens entered, produced from one to 17 eggs each, or an average of 7.64 eggs each for the month. This is almost identical with the average of 7.70 eggs for the month of November, however 14 more hens were producing in December than in November. The feed consumption of 50 hens for December was 39.3 pound Purina chicken chowder, 275.7 pounds wheat and 60.3 pounds heavy whole oats. The sale of eggs netted a profit of $1.09 over the cost of feed. The total pen production of all pens for the two months and production of the five highest hens for the two months is given in order of their production in the following tables:

**PEN PRODUCTION FOR TWO MONTHS**

| | Owner | Eggs Produced |
|---|---|---|
| 1. | Gentry Poultry Farm | 92 |
| 2, | G. Soulard Turner | 70 |
| 3. | Julius A. Ferguson | 67 |
| 4. | Neil Saunders Wheeler | 37 |
| 5, | G. G. Gilmore | 22 |
| 6. | Henry Holland | 20 |
| 7. | Harley Cadwell | 20 |
| 8. | K. Roehrs | 15 |

| | | |
|---|---|---|
| 9. | C. B. Allaire | 1 |
| 10. | Mrs. Sam Stovall | 0 |

### FIVE HIGHEST INDIVIDUAL PRODUCTION FOR TWO MONTHS

| | Owner | Hen No. | Eggs Produced |
|---|---|---|---|
| 1. | Gentry Poultry Rarm | C259 | 33 |
| 2. | Gentry Poultry Farm | C257 | 30 |
| 3. | Julius A. Ferguson | C281 | 25 |
| 4. | G. Soulard Turner | C264 | 21 |
| 5. | Gentry Poultry Farm | C256 | 19 |

Well balanced rations and careful feeding have a direct bearing on the production of your hens.

Dairy utensils which look clean may not be. Unless they have been properly sterilized they may harbor countless germs which will contaminate the milk and cream.

# HOME ECONOMICS

## WHAT TO TEACH OUR GIRLS

As our girls pass from the period of childhood to that of young womanhood they should be constantly learning how to live. They ought to feel they have a share in the family responsibilities and labors as well as pleasures.

Probably nine tenths of all women marry and eight tenths of them do their own housework. Every home maker should maintain her home on a basis that makes for comfort and pleasures. Should she be able to set a balance between economy and comfort, she must know the right standards of living.

Time was when our tired workers used to say, "anyone can keep house, wash, iron, scrub, cook and sew." But the daughters of those workers found that "anyone" cannot do all these things and still do all the things women of to-day choose to do. The person who operates a home successfully and still finds time for recreation and rest must know her business and how to run it. It is the duty of all parents to see that their daughters have instructions in the various phases of housekeeping and homemaking. The girl must not only learn how to cook and sew, wash and iron, she must know the value of food to the body, how to purchase it most economically and how to preserve it. She must understand the physiological processes of the body, its need and care; she must know something of accounting, bookkeeping and business methods in general.

Either the parents must teach the child these things or instruction must be provided thru the public school, either day or evening classes, or by means of clubs. No parent willingly neglects his child or gladly sees her fall behind in the performing of her duties and yet many do not realize the absolute necessity of a broad knowledge of all the affairs of the home.

LUELLA MADSON.

## BOUND BUTTONHOLES

Bound buttonholes are useful as well as ornamental. They may be used in waists, big aprons and numerous other garments.

When making the bound buttonhole, a lengthwise strip of cambric or lawn, wider than the length of the buttonhole is placed on the under side of the garment, where the buttonholes are to be cut. Mark with colored thread the place and length of the buttonhole. Baste a strip of bias material two inches longer than the length of the buttonhole and one and one-half inches wide over the place marked for it, right sides together, center of bias strip on the line of the buttonhole; mark buttonhole thru it with colored thread, then stitch by hand or machine right around the marking, allowing as narrow a seam as possible and running it off to nothing at the ends of the buttonhole. Cut between the two rows of stitching and turn the binding thru to the wrong side and run to the cambric stay. Trim away what is unnecessary and overcast edges. Cut holes in the facing of the garment over the buttonholes, and hem facing down to the inside of the buttonhole.

MARYETTA WILSON.

There's something more than a "feed" in something to eat at community meetings. It partakes of the age-old ceremony of "breaking bread together" and is part of the spirit of hospitality.

# FARM BUREAU

## THE FARM BUREAU MEMBERSHIP CAMPAIGN

While complete reports are not in from all of the farm bureau counties with reference to the membership campaign for 1920, the results thus far obtained are most gratifying.

The matter of getting progressive people into the farm bureau as members is no longer a difficult matter. This is due to the fact that they have a better understanding of what a farm bureau is and how it proposes to handle some of the many big jobs that confront them on the farm or ranch.

About fifteen farm bureaus held county-wide meeting during the month of December. Thee meetings were well attended in practically all instances by people who were eager to learn of the work and jobs to be undertaken during 1920. Officers and executive committee members were chosen who realized the possibilities of farm bureau work and appreciated the responsibility that was theirs in the handling of some definite piece of work.

The membership campaign indicated a winning popularity of the farm bureau movement because of results obtained in all parts of the state by these organizations.

The San Juan County Farm and Livestock Bureau issued a sixteen-page edition of its paper, "The Agriculturist and Stockman," January 1. This number was very attractive and contained a summary of farm bureau and county agent activities for 1919.

## REACHING THE INDIVIDUAL IN FARM BUREAU WORK.

In farm bureau work the big job is to reach the individual. That does not mean every individual within the country. It does mean, however, that if results are to be accomplished individuals must be reached somewhere in the country. How are these individuals reached?

The most convenient and logical subdivision of a county organization is the community. The community is made up of a group of individuals. Therefore, the individual will have to be reached thru the community. Again it must be remembered that it is a physical impossibility to reach every individual in every community of a county.

Thru the farm bureau plan a representative group of farmers or stockmen of the community determine upon the jobs to be done. From this group a community committee is developed to take the lead in the various lines of work. Thru the leadership of the members of the community committee the individual farmer, stockman, housewife or child is reached.

Thus the individual is reached and helped by the county farm bureau thru a well organized and active community committee. The work outlined to be undertaken may not always appear to be the big items so far as an individual is concerned. The big idea, however, is to keep in mind the permanent development of the agricultural resources of the community, and to work on such jobs as affect the greatest number. Thus the people work together on the same job as opposed to miscellaneous work bearing intangible results.

Mrs. Edith Salisbury, from the office of extension work, N. & W., gave a very strong address, showing the great progress of women in the farm bureau during the past year. She gave some very convincing facts and figures.

The women of the Dona Ana county farm bureau had a fine exhibit of home-made rugs and remodeled clothing during farmers' week at State College. This display was the result of one project carried on in this county. The rugs were made at a total cost of $1.25 each. The retail cost of such rugs is $5 apiece. Over 200 of these rugs were made in this county last year, representing a saving of $3.75 each, a total saving to the county of over $750 on this one piece of work alone.

# CLUB WORK

## FIFTH ANNUAL STATE CLUB CONGRESS

The 32 boys and girls, county winners in the various projects, met at State College, January 12-17, to compete for state championship. Seven counties were represented by these boys and girls and there were contests in eight projects.

During the week the boys and girls attended classes held for them by the college instructors. An hour was spent each morning at the music department in songs and games. A trip was made to the Diversion dam and thru Old Mesilla, going over the historic points of interest. The Engineering Agriculture and Home Economics Clubs and Y. W. C. A. assisted in entertaining the boys and girls. The following is a list of the state winners from the counties represented:

**COOKING**

| | | |
|---|---|---|
| 1. | Ophelia Hutchins | Curry County |
| 2. | Donnie Addington | Torrance County |

**SEWING**

**Class A.**

| | | |
|---|---|---|
| 1. | Rosa Davis | Torrance County |

**Class B.**

| | | |
|---|---|---|
| 1. | Georgiana Gatom | Eddy County |
| 2. | Maurine Wright | Curry County |
| 3. | Ruth DeWitt | Luna County |

**Class C.**

| | | |
|---|---|---|
| 1. | Grace Bearup | Eddy County |
| 2. | Rosa Chavez | Valencia County |
| 3. | Eloisa Baca | Valencia County |

**CANNING**

| | | |
|---|---|---|
| 1. | Irene DeLozier | Curry County |
| 2. | William Turner | Otero County |
| 3. | Helen Campbell | Valencia County |

Standard Exhibit.

**KAFIR**

| | | |
|---|---|---|
| 1. | Eugene Gallagher | Curry County |

**BEANS**

| | | |
|---|---|---|
| 1. | Claude Brown | Torrance County |
| 2. | Henry Slater | Curry County |
| 3. | Jack McCorkle | Otero County |
| | Cecil Deason | Otero County |

Standard Exhibit.

**POULTRY**

| | | |
|---|---|---|
| 1. | Marie McDaniel | Curry County |

**PIG**

**Standard Exhibits.**

| | |
|---|---|
| Nola Morgan | Otero County |
| Wallace Ferguson | Lincoln County |
| Bee Bohanan | Curry County |
| Isaac Aragon | Valencia County |

**GARDEN**

| | | |
|---|---|---|
| 1. | Frank Fries | San Miguel County |
| 2. | Wallace Vest | Eddy County |

# Lucile Writes About Her Trip to State College

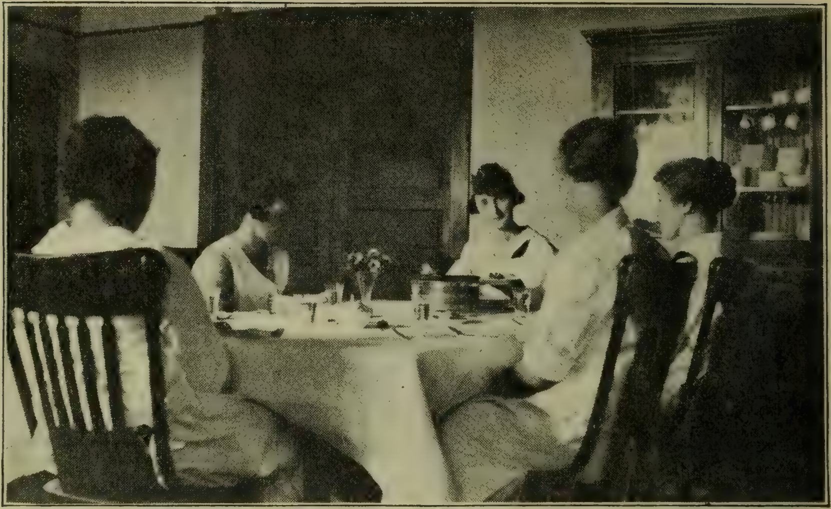
State College, N M.,
January 15, 1920.

Dear Girls:

Here I am at State College along with other boys and girls from all over New Mexico. You ought to be envious of me for it really is the most interesting place I've ever been in. Ever since I came there hasn't been one minute in which to get homesick. The college girls have entertained us at their Y. W. C. A. and at their Home Economics Club. Besides that we have had classes in home economics every day.

There are nice big rooms where the sewing classes work and where there are classes in art—you know, embroidery, crochet, stencilling and designing decorations for things in the house. We girls made some pretty stencilled table covers and pillow covers. You must come over and see mine when I get home. Then there is a big kitchen with tables and stands in it where we learned to cook lots of things and we learned to serve what we made.

When I get home I'm going to persuade mother and father to let me come here to college because our teachers have told us so many interesting things and I want to know more about them. They said every girl ought to know how to make clothes and different things to make a house pleasant to live in and how to cook food and serve it. She should be able to buy both clothes and foods and know that she was getting what she was paying for. She ought to know how to keep well and how to take care of sick people. One of the important things we girls should know is how to manage a house in a business like way. One of our teachers said we should think of keeping house as a business just like Mary's father runs his store. She asked us what we were planning to do when we were older and everyone said "keep house or teach school." Really, girls, we



**PRACTICE IN SERVING**

have just a lot to learn if we do it well.

Won't it be fine if we can all come? Then we'll be able to make our own houses much pleasanter and help other people to make theirs better. I don't believe people realize what a fine place State College is and that every girl in New Mexico ought to come here and learn all those things I've tried to tell you about. I wish you could all have been here for farmer's week, it was so interesting. But just wait until next fall when we come to college; I'm coming, aren't you?

Lots of love,
LUCILE.

P.S. I'm sending you a picture of some of the girls serving a supper. Doesn't it look good? It was. too; I made the bread for it.

---

Miss Gertrude L Warren of the Washington office, assistant in charge of boys' and girls' club work, was at State College during the state conference. Miss Warren attended the club meetings, met with county agents and conducted a meeting for the boys and girls. Saturday morning, when achievement day program was held, Miss Warren presented the ribbons to the state champions, congratulating them and having each boy and girl tell in a few minutes "what I did in club work." Saturday afternoon Miss Warren spent in the office with State Leader Foster and assistants, Elizabeth Koger and W. T. Conway, in going over office work.

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One advantage of farm bookkeeping: It lets you know whether you are making money or losing money.

---

There are two ways to make the home grounds attractive. One is to remove the ugly objects. The other and second best, to cover them with vines or screen them with shrubbery

---

One way to fool the repair man: Keep your tractor properly oiled. Tractor machinists say that 50% of their work comes from improper lubrication.

---

Expert knowledge mixed with common sense makes a farming formula hard to beat.

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Fifty years ago farming was largely a matter of muscle. Today brains also count.

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It was a city man in a touring car who asked whether farm bureau membership signs were given as rewards of merit to the best farms.

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# THE NEW MEXICO FARM COURIER

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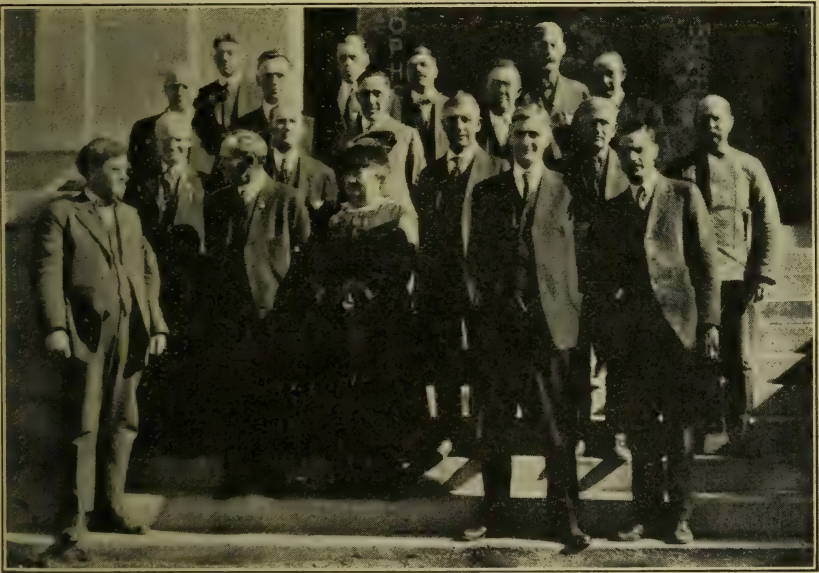

COUNTY DELEGATES WHO ORGANIZED THE STATE FARM AND LIVESTOCK BUREAU AT STATE COLLEGE, JANUARY 12-17

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# THE NEW MEXICO FARM COURIER

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FABIAN GARCIA, Director of Experiment Station.
C. F. MONROE, Director of Extension.

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# EDITORIALS

**By PRESIDENT CRILE**

## SEED TIME

This is the seed time for most crops in New Mexico. No more profitable labor will be expended in the whole time between now and harvest than in the proper plowing, cultivating and preparing of a good seed bed, and in the selection of good seed. We have learned much more, and practiced much better, about the selection of livestock than we have about the selection of seeds, and yet, the laws in each case are the same. Make sure that the corn, or whatever it is that you plant, is of a good strain and that the seed is good. This is also the time, when you are selecting your seed, to make up your mind, without fail, that next harvest time you will select carefully all the seed that you purpose to have the succeeding year." This is very important in New Mexico, because we have not long grown cereals of one sort or the other and we need constantly to select and acclimate the the best possible seed for our conditions.

## HORSES

We are confronted in New Mexico with a shortage of proper horses for the farm purposes. Just as we learned that the Texas steer, the Indian sheep, and the razorback hog are of no consequence in farming, so we shall learn that the pony is no horse for a farmer. At this time you could scarcely go anywhere in the state and buy a dozen teams of horses that would weigh 1,400 to 1,600 pounds and would be well adapted for farming. It is very evident that the market for large horses is better now than it has been during any man's memory, and the prediction is that it will be better in the future. It would be wise if each community of farmers would purchase a stud of a draft type, weighing at least a ton, and would secure as large mares as possible for farm work and breed for large stock. This is a work that no one man can do and get on far with it; but in this country, with our winter pasture and climate, we should grow a great many large draft horses, so that later on they can be profitably marketed. The tractor may take the place of horses in the dry-farming districts, more or less, but the horse will always remain on the farm. Beyond being an economical and handy method of plowing, the tractor still remains to be demonstrated as an economical tool on the farm. On irrigated land, where the turning is frequent, it is an open question as regards the economic advantage of any other form of power than a good team of horses or mules.

Remember the horse!

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## STATE FARM AND LIVESTOCK BUREAU

During the meeting of the farmers' and stockmen's bureaus of the state, at which time sixteen organizations were represented, among the other enjoyable and profitable features of the work was the one outstanding feature: The organization of the farm bureaus into a state bureau. This organization has been effected on a very conservative basis, which has for its purpose the improvement of production, of marketing, and of rural life. Contrary to the organizations of the labor unions in the country, it has not been organized to quit work or, necessarily, to shorten the hours of labor, but to make labor more productive and the result of labor more comfortable. The spirit manifested in the meetings and in the discussions was patriotic and enthusiastic about New Mexico and the many new and good things that are working for the development of our state.

The problems of marketing in New Mexico are so varied that it is difficult to find a uniform practice. Some places are far from markets, while others have a great difference in crops and ways of gathering the crops. All these matters will be greatly helped by co-operative work between the various farm bureaus. If the bureaus now organized will really co-operate, work and plan, great benefit will come from this work.

The state federation purposes to affiliate itself with the Federal Farm Bureau organization, which is also a conservative movement to bring forward the problems of the farmer and help to solve the marketing and other serious handicaps of farm effort. We look with great confidence to the development of this new organization.

This was the first time in the history of New Mexico that delegates from sixteen counties sat together to confer regarding the farming and livestock interests of the state.

# WOOL GRADING DEMONSTRATION

BEGINNING on Monday, March 1, a series of meetings of wool growers of the state will be conducted thru a co-operative agreement recently arrived at by the Extension Service of the State Agricultural College and the Bureau of Animal Indutry, U. S. Department of Agriculture.

The meetings which are to be held will be primarily for the purpose of affording wool growers an opportunity to better acquaint themselves with the actual processes of wool grading and to obtain a more complete understanding of the "why" of the grades, to what different uses the various grades are put, and the handling details which operate as factors in determining the cash returns realized by the producers.

A general invitation is extended to all wool growers, great or small, to attend one or more of these demonstration meetings which are scheduled to be held as follows:

Monday, March 1, Carrizozo, 1:30 p. m.

Tuesday, March 2, Vaughn, 1:30 p. m.

Wednesday, March 3, Carlsbad, 5 p m.

Thursday, March 4, Roswell 1:30 p. m.

Saturday, March 6, Clayton, 1:30 p. m.

Monday, March 8, Las Vegas, 2 p. m.

Tuesday, March 9, Santa Fe, 1:30 p. m.

Wednesday, March 10, Gallup, 1 p. m.

Friday, March 12, Farmington, 10 a. m.

Friday, March 12, Aztec, 2 p. m.

For further details consult the county agent of county in which meetings are to be held.

C. A. McNABB.

## COTTON GROWING

The abnormally high prices being paid for cotton have stimulated the growing of this crop in many sections of the country. The Experiment Station has been running some very extensive tests with this crop for the past four years and the results secured indicate that this crop can be grown at a profit in this valley.

The growing season is sufficiently long to mature the crop and the soils are rich enough to produce plants that fruit heavily. This coupled with the fact that irrigation water is plentiful, gives promise of cotton becoming one of the staple crops in Mesilla valley.

The trials have been largely confined to the Durango variety because of the fact that this cotton, owing to its excellent stable, usually brings a premium of fifteen to twenty cents a pound over the ordinary short stable varieties. Some work has been done, with the shorter stable varieties with very good results.

Bulletin No. 120 of the New Mexico Agricultural Experiment Station will soon come from the press. This bulletin will contain the results of the experiments with cotton at the station and also contain an article on cotton growing in the Carlsbad district, Eddy county, New Mexico.

All those desiring copies of this bulletin should send in their names to the Experiment Station.

RUPERT L. STEWART

# CO-OPERATION SHOULD BEGIN IN THE HOME

**MRS. C. W. FISHERDICK**

(An address delivered at the Farm Bureau Convention at State College during Farmers' Week.)

AS ONE of the delegates from San Juan county, I was sent to this convention to learn the best methods of solving our various problems, that we may be able to assist our county agent.

I am here for the purpose of learning. I realize we have some very difficult problems before us and that "In Unity There Is Strength," which means every man and woman engaged in farming or stock-raising should be a member of the farm bureau.

Being a member does not mean merely paying the dues. That helps, I'll admit, but what the bureau needs is workers, live men and women. I regret we have not more women members. Under the much discussed plan of co-operation, I think we should begin on the farm.

### Cooperation Should Begin in the Home

Cooperation in the farmer's home means much more than most men realize. The farmer's wife for generations has been looked upon as the indispensable drudge and unfortunately, too often she is content to remain so. She takes no interest in the planning of farm or livestock improvement. Too often she loses interest in the home, because the cabin is crude, small and inconvenient. She forgets home is what she makes it. How interesting and easy it is to make the cabin attractive if we use the materials at hand. The rough wall can be covered with canvas and decorated with numerous things that nature supplies. Predatory animals that are destroying her poultry can be trapped and the furs, which are so costly now, make beautiful decorations for the wall or logs overhead in the cabin. The owl that kills her chickens at night and the eagle that picks up the small lambs make beautiful and appropriate electric light fixtures.

She will say "Mountings cost something and my husband has too many places for his money." That is just the reason that I advocate cooperation in the home. As soon as she feels she is part of the firm, she will watch the little things that the busy farmer does not have time to look after. You will be surprised to find how many pigs, lambs, and colts will be saved by her watchful care—and a little warm milk administered at the right time.

The average farm wife will say that she has no time to spend on so small a thing and the husband will add "I wouldn't bother with it, it does not amount to much and will die any way." But they mature quickly and she will soon realize the little time spent pays big. She can well afford to let the dishes stand a little while if necessary. She will soon be able to hire some one to help with the drudgery, and there is plenty of it on every farm inside as well as in the field.

She will not only pay for the luxuries in the home, but often starts the little bank account that eventually pays off the mortgage.

And ladies, I have observed the best way to reach a man's heart is by the way of his pocket book, if you add to rather than take from it. Two heads are better than one, **if one is a woman's**, and where there is cooperation in the home, the problems will be more easily solved. The mortgage will be lifted sooner, hot and cold water, electric lights, heating plants and all modern conveniences become a reality in the cabin.

### Livestock Should be Improved

I am proud to say we live in a log cabin and began cooperation at home. With the great increase in the number of cattle and hogs in the United States in the past 5 years and the sharp decline in prices at our primary markets, due to unsettled conditions and low rate of foreign exchange, it is not only important that we cooperate in the home, the county, the state and the nation but that the quality of our livestock be improved and the quantity reduced, if the livestock interests are to prosper. We all know that well bred, well cared for stock are much more profitable than scrub flocks, half starved. We had a good illustration of this. My husband sold a yearling Hereford last spring to a local butcher for $85.00 while our neighbors were selling their two-year-olds for $40 to $50. Blood and care count.

It is not pleasant to contemplate, but we realize that the produce of the farmers and the stockmen is on a falling market and it may continue some years under stress of reconstruction from war to peace conditions. It is a well known fact that livestock owners are heavy borrowers during high prices and flush times and are often obliged to liquidate during lowering prices and hard times.

### Watch the Little Things

The constant watchword should be "Good blood and good care and look after the little things."

I have been asked to give a few of our experiences in looking after the little things. Sixteen years ago this month, in the extreme northwestern corner of New Mexico, we purchased a badly run down ranch of 1660 acres, and had only money enough to make the first payment on the place. We bought a motley lot of 22 head of cattle from Denver that we were obliged to take on debt. We had no money left with which to buy machinery or horses. That spring a freighter came thru who gave me a little colt. It was from good stock, but as he had to work the mare so hard, he had no time to bother with a little colt. I raised it on a bottle and it grew to be a very useful animal.

The next "little thing" that needed care was two little pigs. Under the same treatment they grew to be big hogs. But the "little things" of which we were especially proud were the five motherless lambs given to me the following year. When they were a year old, the wool brought $11.60, with which I bought a ewe with twin ewe lambs. To make a long story short, the money from the lambs was put back into the sheep and it was not many years before the "few pets of my wife's" became "our sheep" of which we are both very proud.

NOTE—The Fisherdicks now own one of the best, if not the best, equipped sheep ranches in the state. Representatives from the Breeders' Gazette, the Country Gentleman and several other noted magazines have made long trips to their ranch to gather data for special articles. However, it has been the New England thrift and care for small details which has paid for their water system, electric lights and bank accounts. And it is this same care for details and dependability which has put Mrs. Fisherdick on the executive committee of the State Farm Bureau.

H. S. MOLES,
County Agent.

# CARE OF THE BROOD SOW

THE SOW should be placed in a farrowing pen at least a week before the time she is expected to farrow, in order that she may become accustomed to her suroundings. Such a pen should be dry, well sheltered and comfortable and should be so arranged as to prevent the sow from digging a pit for a bed, in which to farrow. To prevent this on a dirt floor, it is sometimes necessary to put a strip of woven wire fence a few inches below the surface of the ground. Only a small amount of bedding is necessary and that should be made up of chaff, leaves or fine cut straw. To prevent the sow from lying on her pigs a two by four should be placed around the pen, about six inches from the ground and the same distance from the wall.

During the last month or six weeks before farrowing, sows that are rather thin should be well fed in order that they may be in good condition at the farrowing time, and as that period approaches their feed should be sloppy in character and be made up of wheat bran, shorts and good quality alfalfa hay. By keeping the stomach in a loose condition the inclination of the sow to eat her young will be prevented. To counteract any tendency in this line, it is well to feed a liberal allowance of tankage for a few days before farrowing time. In case the tankage is not readily obtained, some breeders recommend feeding a few pounds of salt pork, cut into strips at about the same time.

For a few days after farrowing, the sow should be fed lightly on middlings and wheat bran in connection with ground barley, corn or milo, according to what one may find most convenient, making a warm slop of the same in cold weather. As the pigs grow older, the ration of the sow should be increased to all that she will eat, and her food should be principally made up of rich concentrates, for, at this time more than any other, liberal feeding will be well repaid in the growth of the pigs.

LUTHER FOSTER

# EXTERNAL PARASITES THAT REDUCE LIVESTOCK PROFITS

THE EXTERNAL group of parasites may be subdivided into several classes, i.e., scabies of sheep, cattle and horses; lice, infesting cattle, horses and swine; the ear tick, infesting nearly all of our domestic animals, and the gad-fly. These are the principal external group of parasites that we have to deal with.

The control of the scabies lies jointly with the Bureau of Animal Industry and the Cattle and Sheep Sanitary Boards of New Mexico. The Agricultural College makes no attempt to control or eradicate this disease, but will co-operate actively with the proper authorities in reporting such outbreaks as come within its knowledge. Bulletins dealing with this disease can be obtained from the county agent or direct from the Extension Service, State College, New Mexico.

### Lice Cause Great Loss

Lice cause a great economic loss. In fact it might be impossible to correctly compute it. When gross infestation occurs on an animal, we know the toll of pure red blood that is forfeited each day is very great. The question is, how long will the infested animals be able to withstand it. As long as the physical condition is good, and there is ample food and water to keep them up. In New Mexico no losses from lice occur, as a rule, during summer; the losses occur during winter and spring. These are the times when the feed is short, the days are cold and the nights long. Added to this the maturing fetus and gross infestation by lice, causes hundreds of cattle to perish annually.

### Eradicating Lice

There are a number of agents used in eradicating lice among which are, coal tar dips, lime sulphur, nicotine and arsenic. The writer recommends the arsenical treatment, because it is economical, efficient and safe to use. Formula from the Bureau of Animal Industry.

| | |
|---|---|
| Arsenious trioxide ($As_2 O_3$) | 10 lbs. |
| Sal soda | 25 lbs. |
| Pine tar | 2 gals. |

(Bureau formula 1 Gal.)

The sal soda should be cooked in a tank or boiler. After that is done, add the arsenic, stirring until all is dissolved; then draw the fire and add the tar stirring it all the while. The extra gallon of tar makes a nice brown mixture. If the water is very hard a softening agent such as concentrated lye should be used. In using lye, care should be exercised.

This preparation can be used cold, so it is not necessary to heat it with high priced fuels after it is cooked. Horses can be dipped in this preparation with good results. Where horses are to be dipped, the vat should be 1 foot deeper than for cattle. (Blue prints of this vat can be obtained by writing to the Veterinary Division, State College.) County agents are furnished with a field test outfit in order to be able to determine the proper strength of the dip.

### Ear Tick Causes Indirect Loss

It is doubtful if the ear tick is the direct cause of cattle losses, but it cannot be disputed that they are accessories to it. Cattle are dull and phlegmatic, their nervous systems are not so well nor highly developed as other animals, but even when grossly infested, may show no symptoms. This parasite is common over the greater part of New Mexico. The writer has used to very great advantage the tar and oil formula given in Farmers' Bulletin No. 980 as follows:

| | |
|---|---|
| Cottonseed oil | 1 part. |
| Pine tar | 2 parts. |

Mix thoroly and place about ½ oz. in each ear.

Badly infested cattle should be treated a second time in about 30 days. As the eggs of the tick are not hatched on the animal, we may expect a reinfestation. Fall and spring dressings are the most important. If cattle are dipped for lice they could be treated for ear tick at the same time.

### Gad-Fly (Hypodermia Lineatae.)

The larvae or grub of this fly develops in the backs of the cattle and if not removed, they finally reach the ground where they undergo another cycle of development, later on appearing as a gad-fly to perpetuate their kind. Where gross infestation occurs, great injury is caused, not alone to the skin but to the animal. There is no disputing the fact, enormous amounts of toxic substances are thrown off by these parasites, and in turn thru absorption, reach the circulation of the host. The proper time to remove it is when the head commences to turn a dark brown color. By applying a little pressure on both sides of the nodules with the fingers, the grub is easily dislodged. It should immediately be destroyed. One way is to collect them in a tin can, pour a little coal oil on them and set it on fire. They should not be crushed in the back, for the screw worm fly is ever alert and looking for just such shelter to deposit its eggs or larvae. If a greater number of these grubs are removed, the cavities should be washed out with an antiseptic, such as bichloride of mercury, 1 in 200; compound solution of cresol, 3 per cent; or kreso dip, 5 per cent. After that is done, the back of the animal should be dusted with a good, antiseptic powder.

E. P. JOHNSON.

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## BEE KEEPERS IN SAN JUAN COUNTY BUY SUPPLIES

Thru the efforts of the San Juan County Farm Bureau the bee keepers of the county are pooling their orders for a carload of bee supplies. To date over $2,300 worth of orders are listed and the money deposited in the bank. This will mean a big saving to these men as ordinarily the local merchants scattered over the county can only maintain a small supply of bee keepers' necessities because of limited demand. In this way the orders from all over the county, when pooled, will amount to a great deal and will be found worth while to those cooperating.

# EGGS FOR HATCHING FROM THE NEW MEXICO EXPERIMENT STATION

THE POULTRY Department of the N. M. Experiment Station will have for sale this season eggs from the following varieties: Single Comb White Leghorn, Single Comb Black Minorca, Single Comb Rhode Island Red, Barred Plymouth Rock, White Wyandotte and Bronze Turkey. The Department does not sell baby chicks. The price of eggs will be $1.75 per setting of fifteen eggs delivered, and turkey eggs will be fifty cents each. Unless good reasons are given all deliveries will be made by parcel post. Definite shipping address should be given with each order. In all cases payment in full must acompany the order.

It is not the purpose, in selling eggs for hatching, to sell enough to any one person to establish an entire flock. The object is to supply poultry keepers with eggs from trapnested hens of known high production so that they may grow for their own use breeding stock which may be used to strengthen or maintain their own flock. The number of eggs allowed to any one person or farm is one setting in all varieties excepting White Leghorn, in which variety two settings will be sold. Ten turkey eggs, or less, will be sold to one person or farm. During the season of 1919, several persons secured the services of friends and neighbors to secure more than the allowed number of settings. Such practice is discouraged, and if detected orders will be immediately cancelled.

The Poultry Department was inaugurated for the purpose of aiding in the betterment of the poultry industry in New Mexico. It is the ambition, then, of the Department to give as near satisfaction as possible. In the past three seasons, some unsatisfied purchasers have given their dissatisfaction to persons not connected with this Department, or even with the Experiment Station. Other purchasers have waited eight to twelve weeks after the eggs were received to make complaint. Reasonable satisfaction is assured, if complaints of infertility are made within eighteen days of receipt of the eggs. Fertility in eggs can be readily detected after the seventh day of incubation, and eggs should be candled on the seventh day to determine how many are not fertile, and, therefore, cannot hatch. By doing this it is often possible to give the eggs of two hens to one, and reset the other hen. It is not justice to the hen, nor profitable to the owner to keep her on eggs that have no possibility of hatching.

Orders will be filled in the order in which they are received, and as soon after they are received as possible. All orders that cannot be filled before the fifteenth of April will be cancelled, and the remittance refunded. This is done because it is not advisable to hatch chicks after May first, and it is better if all chicks are hatched before April 1st.

R. B. THOMPSON

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## JANUARY REPORT OF THE FIRST NEW MEXICO EGG LAYING CONTEST

During the month of January the hens in the contest have cleared the deficit of forty-four cents with which they finished the month of December, and now there is a balance of $16.32 to their credit above feed cost to date. But four of the fifty hens entered in the contest failed to produce eggs during the month. The range was from one to twenty-two. They averaged 10.58 eggs per hen or an increase of 2.94 eggs per hen over the average of the month of December. Fifteen more hens were producing in January than in December.

### PEN PRODUCTION.

| | Pen Production | |
|---|---|---|
| Owner | for Month | To Date |
| Gentry Poultry Farm | 66 | 158 |
| Julius A. Ferguson | 61 | 128 |
| G. Soulard Turner | 45 | 115 |
| Neil Saunders Wheeler | 66 | 103 |
| G. G. Gilmore | 78 | 100 |
| Henry Holland | 41 | 61 |
| Harley Caldwell | 41 | 61 |
| C. B. Allaire | 39 | 40 |
| K. Roehrs | 17 | 32 |
| Mrs. Sam Stovall | 13 | 13 |

### FIVE HIGHEST INDIVIDUAL PRODUCTION FOR JANUARY

| Owner | No. of Eggs |
|---|---|
| G. G. Gilmore | 22 |
| Neil Saunders Wheeler | 21 |
| C. B. Allaire | 20 |
| Gentry Poultry Farm | 20 |
| Neil Saunders Wheeler | 18 |

### FIVE HIGHEST INDIVIDUAL PRODUCTION TO DATE

| Owner | No. of Eggs |
|---|---|
| Gentry Poultry Farm | 53 |
| Gentry Poultry Farm | 42 |
| Julius A. Ferguson | 41 |
| Neil Saunders Wheeler | 34 |
| Neil Saunders Wheeler | |

### CORN VARIETY TEST DEMONSTRATIONS

Rather extensive plans are being developed for the carrying on of corn variety test demonstrations in all parts of the state. The basic varieties to be used in these demonstrations will be: Improved Mexican June, Iowa Silver Mine, Reid's Yellow Dent, White Australian Flint, Hickory King, Swadley, Minnesota Thirteen, Union County White, Concho and Colorado Yellow Dent. This work is a continuation of the variety work started last year.

In addition to these varieties County Agent Conroy in Valencia county is going to include in his demonstrations a number of white dent varieties to be furnished by the Office of Cereal Investigations, Bureau of Plant Industry, United States Department of Agriculture.

Last year the Mexican June and Union County White varieties were found to be good yielders in several counties of the state.

# HOME ECONOMICS

### WHICH ONE ARE YOU?

"Hello."

"Hello, Mary? This is Sue. I just called up to ask if you wouldn't like to go to town to the club this afternoon."

"Well Sue—I'd like to, but—I can't. I'm just cleaning my house and I'm so tired I declare I can't think of anything. Every room in this house has to be gone over, top to bottom, every week or so, and you know I haven't any help. On cleaning days John and the boys stay out at the barns as much as possible and I can't blame them one bit. All day long I'm working, and by night I'm dead tired. No wonder. First, I'm standing up sweeping then I'm down on my knees wiping the floors, then I'm up on a chair cleaning the windows, and as soon as that's done, I'm bending and twisting over the dusting. It seems like I'm always running back to the kitchen to get water or soap or a dust cloth!

"I don't see, Sue, how you manage to get your work done without help, and the way you do!"

"Well, Mary, I made up my mind when I married Joe that I wasn't going to give up everything for housework. I soon found out, tho, that it had to be done and done in systematic, orderly way or I wouldn't have time to go anywhere or even talk to Joe. You know Mary, I really think you do waste a good bit of time cleaning one room at a time. I used to do that but I've found that if I do all my sweeping and put away my brooms and then do all my dusting and wash out the cloths and put away the polishes and then wipe up the floors and put away the mops, I don't have to move the whole outfit all over the house, and I don't waste time changing from one kind of work to another and putting down and picking up my tools. Another thing—I wash the windows on another day than cleaning day and that helps a lot."

"Do you really think system is worth so much, Sue?"

"Yes, I do. You know a year ago I went with Joe back East and I saw how everything in those big factories was done to a system, and how little work brought big results. I told Joe I thought that if men could do their work in an orderly way, women could too. And so, ever since I've been trying different ways of doing my work to find the way that costs the least in time and strength and still gets the work done well. Joe has helped me and now I have time for some of the things I've always wanted to do. Oh, Mary, I wish you would go with me to-day."

"Sue, I just can't. I have to cook supper for John and the boys—they haven't had much all day. How can you get back in time to get yours?"

"Oh, I'll be back by six and I've got most of my supper in that fireless cooker Teddy made me out of a big lard can. Didn't Fred make you one too?"

"Yes, but I never use it; I can't get used to it."

"Someone wants to use the line and it is time for me to get ready anyway. Next week I'm coming over to help you, may I?"

"Why, yes, Sue, if you really want to."

"I will. I am sorry you can't go to the Club but—sometime you can. Goodbye!“

"Good-bye."

And the sweet voiced housewife who had learned and the tired one who had yet to learn, hung up their receivers.

LUELLA MADSON.

# RESULTS OF A FARM HOME SURVEY IN FIVE NEW MEXICO COUNTIES

In June 1919, a farm home survey was made in Bernalillo, Chaves, Colfax, Doña Ana and Union counties, the five counties having home demonstration agents. A summary of the 244 survey blanks which were filled in by the farm women of these five counties shows that the following conditions prevailed at that time.

| | |
|---|---|
| Houses heated by stoves | 231 |
| Housewives carrying fuel and ashes | 114 |
| Houses lighted with electricity | 20 |
| Houses lighted by gas (gasoline) | 7 |
| Housewives doing their own sewing | 138 |
| Housewives spending an average of 4.2 hrs. per week in mending clothing | 163 |
| Housewives baking all the bread | 225 |
| Housewives having bread mixers | 18 |
| Housewives doing washing in homes | 224 |
| Housewives having machines (hand power) | 118 |
| Housewives having machines (electric) | 8 |
| Housewives having machines (gasoline engine) | 2 |
| Housewives doing ironing in home | 232 |
| Housewives having electric iron | 14 |
| Housewives having gasoline iron | 7 |
| Inconviently arranged kitchens | 91 |
| Dumb waiters to cellar | 5 |
| Wheeled trays | 10 |
| Carpet sweepers | 41 |
| Vacuum cleaners | 7 |
| Electric vacuum cleaner | 1 |
| Bath tubs, hot and cold water | 13 |
| Automobiles | 132 |
| Kerosene cook stoves | 117 |
| Gasoline cook stoves | 1 |
| Electric cook stoves | 1 |
| Number owning farms | 189 |

In checking over this report it is interesting to note that 189 of those reporting, or over 77 per cent owned their own farms. Because of this fact one would naturally expect fairly modern homes, and in some respects this is the case, but in other respects home conveniences seem to be decidedly lacking.

The number owning automobiles appears to be very large, over 54 per cent indicating that the time has come when the automobile is considered by many as necessary for carrying on the farm business. When it comes to modern bath tubs, however, we only find 13. Furnaces also appear to be scarce, 231 out of the 244 homes being heated with stoves. Forty-one had carpet sweepers and 8 vacuum cleaners, one of these being an electric cleaner. One hundred seventeen had kerosene stoves for cooking in hot weather. The large number of kerosene stoves and small number of furnaces is no doubt the result of the warm climate found in most parts of New Mexico. The number of homes lighted by other than kerosene lamps was 27, or a little over 12 per cent. Twenty of these were lighted by electricity and 7 by gasoline plants. Fourteen of those with electricity had electric irons and 8 electric washing machines.

It is very likely that this survey shows conditions somewhat above the average, for it was, no doubt, the more progressive farm women who filled in and returned their survey blanks. Taking the survey as a whole, however, it is quite evident that a great deal still remains to be done toward putting modern conveniences in the farm home.

MARY B. RICHARDSON

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For control of fruit diseases, let us adopt the slogan, "Let us spray." It pays. Try and see.

### REMOVE THE SHINE.

Why have the shine on clothing? Simply sponge the wool material with diluted blueing. Under a thin cloth press it while it is still damp. This is only possible with dark woolen material.

To remove the shine from silk dresses sponge the material with a little ammonia in a few spoonsful of alcohol. A black silk when so sponged becomes almost like new. If the color has been taken out by fruit stains, ammonia will usually restore it.

M. WILSON.

# FARM BUREAU

## CONSTITUTION AND BY-LAWS OF THE NEW MEXICO FARM AND LIVESTOCK BUREAU

**(AS ADOPTED AT ORGANIZATION MEETING AT STATE COLLEGE JANUARY 15, 1920.)**

### ARTICLE 1.

**Name:**

The name of this organization shall be the New Mexico State Farm and Livestock Bureau.

### ARTICLE II.

**Objects:**

The objects of this organization shall be to correlate and strengthen the county farm and livestock bureau and other organizations of farmers and stockmen of the several counties in a state federation to promote, protect and represent the business, economic, social, and educational interests of the farmers and stockmen of the state.

### ARTICLE III.

The objects of this organization shall be effected thru the adoption and promotion of definite State Projects. These projects shall be based on the results of a careful study of the projects of the county bureau, as well as those initiated by the directors. They shall be formulated and directed by the executive committee of this Bureau in cooperation with the Director of Extension of New Mexico College of Agriculture, or such person or persons as may be designated by him.

### ARTICLE IV.

**Membership:**

Sec. 1. Each County Farm and Livestock Bureau in the State of New Mexico, cooperating with the New Mexico College of Agriculture and the United States Department of Agriculture, shall be eligible for membership and shall be represented by its president or some person elected by the executive committee of the Farm Bureau of the county and provided with proper credentials from the executive committee. The president or member elected by the executive committee shall be known in the state organization as a director, and shall serve for one year or until his successor is duly elected.

Sec. 2. A County Bureau applying for membership in this organization shall present an application accepting and agreeing to abide by this constitution and by-laws, which application shall be submitted to and acted upon by the executive committee as hereinafter provided and shall be accompanied by the requisite membership fee.

## ARTICLE V.

### Dues:

Sec. 1. The annual dues for each county bureau for membership in this organization shall be fixed by the by-laws.

## ARTICLE VI.

### Executive Committee:

Sec. 1. The executive committee shall consist of the president, secretary-treasurer, and five members elected by the annual meeting of the directors of the farm bureaus composing this organization; and all shall be directors of the State Farm Bureau. They shall be elected for a term of one year or until their successors are elected and qualify; and all elections of the executive committee members shall be by private ballot.

Sec. 2. The executive committee shall meet and organize immediately after its election at each annual meeting. It shall put into effect the recommendations, resolutions, and projects set forward at the annual meeting, and on arriving at the definite plan of work for the purposes of the organization, as set forth in Article II., shall state definitely the various forms of activity in which it intends to engage, and shall set forth its work in consultation with the Director of Extension and the Leader of County Agents or some other person appointed by them. The executive committee shall appoint from among its number an individual as a sub-committee, who shall be the leader of one or more projects set forth in accomplishing the work as set forth in Article II. of the Constitution and to which may be assigned said committee of one to report back to the committee as a whole, before proceeding with the final form of his work.

Sec. 3. The executive committee may make such arrangements as it deems advisable for the payment of necessary expenses incurred in the carrying forward of its work; and may enter into an agreement with the Extension Service, in cooperation.

Sec. 4. The State Extension Director and the County Agent Leader shall be advisory members of the executive committee, entitled to participate in all meetings of the committee, but without vote.

## ARTICLE VII.

### State Project Committees:

Each state project shall be developed and led by a committee consisting of the project leader on the State Executive Committee as chairman and the project leader of similar work on each county executive committee which has formally adopted the project.

## ARTICLE VIII.

### Meetings:

Sec. 1. The annual meeting of this bureau shall be held at such time and place as may be fixed by the executive committee. Notice of the time of such annual meeting shall be mailed to the general secretary of each county bureau at least fifteen (15) days in advance thereof. Special meetings may be called by the president whenever necessary and shall be called by him when demand is made in writing by any five (5) members. Notice of all special meetings shall be sent by the secretary-treasurer of this organization to each organization member at least fifteen (15) days prior to the date of such meeting. Such notices shall state the object of the meeting and the subject to be considered.

Sec. 2. The executive committee shall hold meetings at such time and place as may be agreed upon by the committee. Special meetings may be called by the president whenever necessary and shall be called by him when requested to do so by three (3) members of the executive committee. Notice of all meetings shall be sent to each committeeman at least ten (10) days prior to the date of such meeting, stating the object of the meeting and the subjects to be considered.

Sec. 3. Reports of all executive meetings shall be filed with the secretary-treasurer and copies furnished to each county bureau of the organization and the Director of the Extension Service of the State Agricultural College.

## ARTICLE IX.

### Officers and Duties:

Sec. 1. The officers of this bureau shall consist of a president, vice-president and secretary-treasurer.

Sec. 2. All officers shall be elected by a majority vote of the delegates at each annual meeting and serve for one year or until their successors are elected and have qualified. The election shall be by private ballot.

Sec. 3. The president shall be the executive head of the organization. He shall preside at all meetings of the organization and the executive committee. He shall be an ex-officio member of all standing and special committees.

Sec. 4. The vice-president shall perform the duties of the president in his absence or inability to serve.

Sec. 5. The secretary-treasurer shall receive all money and shall disburse same by check only upon written orders signed by the president. He shall carefully account for all money and make a full report at the annual meeting or at other times upon the request of the president. The secretary-treasurer shall furnish a good and sufficient bond, satisfactory to the executive committee.

### ARTICLE X.

### Vacancies:

Sec. 1. Vacancies in the executive committee or among the officers may be filled by the remaining members of the executive committee until the next annual meeting.

### ARTICLE XI.

### Quorum:

Sec. 1. A majority of the directors shall constitute a quorum and no delegate shall vote by proxy.

Sec. 2. Four members of the executive committee shall constitute a quorum for all meetings of the executive committee.

### ARTICLE XII.

### Remuneration:

Sec. 1. All officers, delegates and executive committee members shall serve without pay; but the actual expense of travel and maintenance incurred by members of the executive committee in attending any special or called meeting or performing any work at the direction of the executive committee, as a sub-committee, shall be paid from the general funds.

The travel and maintenance expenses incurred by each director in attending the annual meetings shall be provided for by the county bureau which such director represents.

### ARTICLE XIII.

### Amendments:

Sec. 1. The constitution of this State Farm Bureau may be altered or amended by a two-thirds vote of the necessary number of delegates of the organization present at any regular meeting or at a special meeting called by request of five (5) members; notice in writing of the proposed changes having been given to all members at least fifteen days prior to the time of the meeting.

## BY-LAWS

### Article I.

The annual dues for membership in this organization shall be as follows: Twenty cents for each member of the County Farm and Livestock Bureau, with a minimum fee from each county of twenty ($20) dollars. In addition thereto there shall be paid into the treasury for transmission to the national organization such a sum as may be required by the national organization.

### Article II.

The secretary-treasurer shall be bonded for the sum of one thousand ($1,000) dollars and premium of bond shall be paid by the State Farm and Livestock Bureau.

### Article III.

In all meetings of the directors or executive committee the Robert's Rules of order shall control.

### Article IV.

**Amendment**—These by-laws may be amended or set aside by a majority vote of a quorum at any regular or called meeting of the directors.

## BIG CORN SHOW IN SAN JUAN COUNTY

One of the biggest corn shows ever held in the west was in San Juan county last month when nearly 1,200 ears of corn were on exhibit. Nearly twenty hours time was needed to complete the judging work.

The survey of farm and home conditions made last June in the five New Mexico counties having home demonstration agents have revealed among other interesting things, that for the 244 blanks filled out there are 132 automobiles and 13 bath tubs.

---

Union County Farm Bureau has a home improvement project. These women are working to make the homes more convenient, healthful and beautiful by introducing simple labor-saving devices, sanitary surroundings, beautiful yards and carefully arranged interiors of homes.

Harold Trentman is now county club leader of Torrance county, taking the place of C. H. Bennett, resigned.

Mr. Trentman was a teacher of agriculture in the Estancia high school and is well prepared to lead the boys and girls in his county in club work. He attended the conference of extension workers at State College in January.

Mr. Trentman began club work February 15, and is now busy organizing the clubs. The county will stress bean, pig, calf, cooking and sewing clubs.

# CLUB WORK

## CLUB WORK WAS A FEATURE AT THE WESTERN LIVESTOCK SHOW

By attending the National Western Livestock Show at Denver, January 19 to 24, State Club Leader Foster, of New Mexico, had a good opportunity to witness the results and achievements of club members in our neighboring state.

Exhibits in all projects were brought in by the county winners of the state and after being judged premiums were awarded. One of the most interesting features of the exhibits was an exhibit of all premiums to be given. These consisted of aluminum ware of all kinds, pressure cookers, loving cups and medals. No cash prizes were given for club projects, altho some were given for open competition in the stock show.

### Club Teams Give Demonstrations

Community and county teams gave demonstrations in Canning, Cooking, Sewing, Field Crops and Livestock, continuously during the six days of the fair. The remarkable feature about this demonstration work was the fact that no prizes were awarded. There was no competition but the teams came from the counties and communities with the idea of rendering a service both to their community and the people attending the stock show, by demonstrating some important phase of agriculture or home work. A fine spirit was shown by the boys and girls and all were happy and enjoyed doing their work.

On Thursday evening a banquet was given at the Metropole Hotel at which on hundred sixty club members, bankers, extension workers, and others, were present. The state winners each gave a short talk telling of their achievements during the past year, which were very interesting, to say the least. The winners of the trip to the International, given by Armour & Company, were announced, and other state prizes given out. Singing was a feature of the evening, as is the case at every good club gathering.

### How Meeting Was Financed.

The plan used by Miss Sheridan in bringing the members to the show was different from most plans used. The members were brought in groups for a two day stay after which they left to make room for another group. The National Western Stock Association paid all expenses of the boys and girls and entertained them while in Denver. In addition to this, numerous bankers of the state, and other private and business organizations, contributed liberally to the support of the very successful club gathering which was held.

Would it not be a fine thing for New Mexico, if such a state event could be financed and held every year, at which the boys and girls from all over the state could exhibit their work and demonstrate proper methods in agriculture and home improvement?

# GROW A GARDEN

WE READ and hear much about pasture, silage and succulent feeds for all kinds of livestock and then sit down to three meals a day of meat, bread and frijoles. Is there any consistency in such a practice? Are not the bodies of human beings animal as well as the bodies of farm livestock and do we not need succulent vegetable food to help balance our rations and keep our digestive systems running smoothly? This is reasonable, economical and practical. A home vegetable garden for every home in New Mexico is the solution of the problem.

### Let the Boy or Girl Grow the Garden.

In the country districts, garden club work has not been stressed for the simple reason that every farm home is supposed to have its garden and there is no particular need for the club garden. But why not let the boy or girl have the home garden—or a part of it—for his or her club project? There is no better way than this to stimulate the child's interest in the home, its need, its duties and responsibilities. Can boys and girls be expected to learn how to grow good vegetables and never have a hand in the work? That is not good teaching.

But some one will say that the boys and girls do not care for the garden club work. Why? The main reason is that if they have a home garden the vegetables are consumed and the club members see no financial results of their labors. A little planning on the part of the older people will obviate this difficulty.

### Preparing the Garden Plot.

The garden plot should have been fertilized and plowed close and deep early in the winter It is now planting time for the hardier vegetables in the southern half of the state.

For a home vegetable garden, select only those varieties that grow well and are relished by most members of the family. Plant plenty of those that are good for canning or storing in their green state. This is the only way to make the garden serve the family table the year round. A summer garden is a good thing, but one planned to last all year is far better.

### Grow Vegetables for Winter Use.

Staple vegetables to grow for canning are corn, green beans, beets, carrots, cucumbers, squash, pepper, peas and tomatoes. Others may be canned, but these are most important. Vegetables for the pit, or cellar, are late cabbage, carrots, beets, onions, pumpkins and sweet potatoes. Any of these may be dried in their green state and revived as they are needed in winter.

Garden vegetables will not grow in poor soil—soil poor in plant food and poor in physical condition. But any one can get fertilizer enough to make a garden. A garden cannot be made nor grown without work When you get the inspiration to make garden, just keep the plow, spade, rake and hoe going till they produce plenty of "perspiration." Keep the soil in good tilth and all weeds killed before they show any green above the ground.

### Apply Water With Care.

Gardens cannot be grown without water, but too much water is worse than not enough. Use good judgment and put on enough water to carry the crop a week or more. Cultivation should follow irrigation as soon as the soil can be worked without "puddling" it. It is usually right when it shows dry on the surface.

Good seed is very important. There are plenty of reputable seed houses from which good seed can be secured. Don't waste time, labor and a good garden spot by planting poor seed, which can produce only a poor quality of vegetables.

### Plant Sufficient Seed.

Plant plenty of seed to get a good stand, but no more than is needed. Plant small seeds shallow and the larger seeds deeper. Plant on the sides of well made ridges and not on top. Firm the soil over the seeds and keep it moist enough to germinate evenly. Plant hardy vegetables when the peach trees are budding and blooming and frost-tender vegetables when the apples are in blossom.

Plan your garden for successive plantings so as to keep the soil at work thruout the growing season. Watch for the insects and fight them before they get a strong hold. Don't trust to luck; for nine times out of ten the insects will be more lucky than the vegetables.

A good garden is well worth all it costs. It saves not only in the grocery bill but frequently in the doctor's bill. The body demands vegetable foods and the home garden is the surest source of fresh vegetables.

W. T. CONWAY.

## THE CODLING MOTH

EACH SPRING for the past few years the Horticultural Department has been sending out an article containing a tentative spraying schedule and summary of the results of the life history investigations being conducted at the horticultural farm. These life history investigations have been conducted for several years and the data are now being compiled into bulletin form.

### 1920 Schedule Will Not Be Changed

The results of last years investigations were so similar to those of preceding years that the spraying schedule for 1920 will be the same as for 1919. We will retain the calyx spray, which is given when about 90 100 per cent of the blossoms have fallen, or just before the calyx closes, to get the little calyx cups full of poison. The date to apply this spray will vary with the season, the locality and the variety of the fruit. At the Station, at an altitude of 3,800 feet, the second spray is applied in about two weeks after the first, to catch the first brood of larvae which is begining to hatch. Owing to the break between the first and the second broods, the third spray is given in about thirty-nine days after the second. After the third spray has been applied, egg laying is continuous thru the season, and the remaining applications are given twenty-two days apart.

### A Tentative Schedule

The following is a tentative spraying schedule to be used at the Experiment Station, based on life history data secured from breeding work at the Experiment Station; and used for the past three seasons with very good results:

**FOR WINTER APPLES**

| Dates | Days Between Sprayings |
|---|---|
| April 20 | |
| May 5 | 15 |
| June 13 | 39 |
| July 5 | 22 |
| July 27 | 22 |
| August 18 | 22 |

**FOR BARTLETT PEARS**

| Dates | Days Between Sprayings |
|---|---|
| May 5 | |
| June 13 | 29 |
| July 5 | 22 |

It is impossible to give anything more than a basis for spraying schedule at this time. The first spraying will have to be made to conform to the season with the subsequent applications to conform to this basis. In the higher and cooler districts where there are fewer broods and the insect is more easily controlled, it should not be necesary to spray as many times as in the warmer and more badly infested districts. There are portions of the state which have a fruit crop failure about every other year, due to the late spring frosts. In such districts the codling moth should be very easily controlled as they are almost starved out during the off year of fruit.

In the schedule for Bartlett pears, the first, or calyx spray, has been omitted. This is because the calyx on this variety does not close. Only three sprayings are necessary as the pears are picked near the first of August.

Arsenate of lead is commonly used and is generally applied at the rate of one-and-one-half pounds of the powdered, or three pounds of the paste form, to fifty gallons of water. It appears that the development of the spray gun, or fruit fog as it is often called, is to be a very great aid in the fight against the insects. It not only produces an excellent fine spray, but also eliminates one man for spraying because of its capacity and speed. The only requirements are a good pump that handles lots of material, a good engine that will keep the pressure up to 250 to 300 pounds; and a good fast thoro man to handle the spray gun. The spraying machine should have a good agitator to keep the lead in suspension, otherwise, it will settle to the bottom. **"Thoroness is our slogan."**

A. B. FITE.

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# THE NEW MEXICO FARM COURIER

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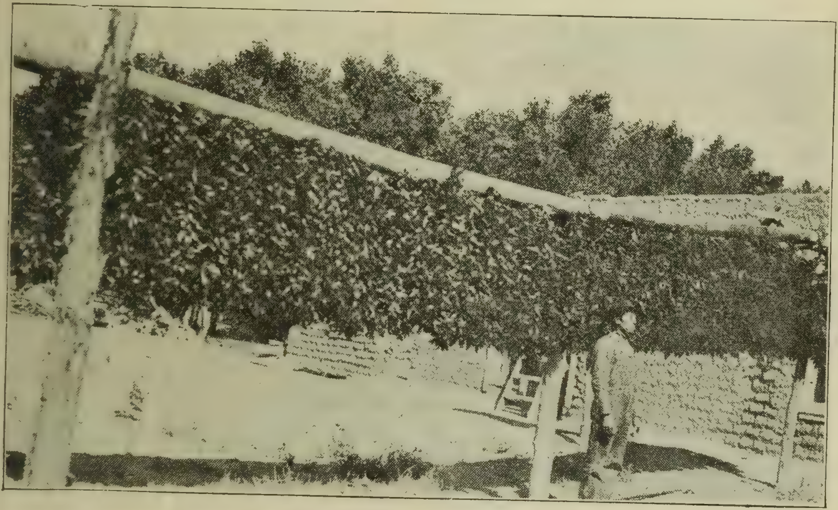

NEW MEXICO PRODUCES MUCH CHILE.

This crop was produced by J. Torres of Valencia County, Tome, N. M.

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# THE NEW MEXICO FARM COURIER

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LUTHER POSTER, Acting President of College.
FABIAN GARCIA, Director of Experiment Station.
C. F. MONROE, Director of Extension.

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E. Peterson, Curry Co., Clovis.
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Leah Harris, Colfax Co., Raton.
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Edith M. Hurley, Union Co., Clayton.

# EDITORIALS

(By Director C. F. Monroe.)

## THE SILO

Some wag with an agricultural turn of mind has said "put a silo up or put it down, but don't put it off." He probably referred to the above ground and pit types of silo. His advice too, is well worth heeding.

Some think that the silo is a thing that has been developed in the past decade. According to ancient writers it was a common practice as far back as the time of the ancient Greeks and Romans, many centuries ago, to preserve grain and green feed in underground pits. It has also been customary in parts of northern Europe to preserve feed in the same way when unfavorable weather made the curing of hay impossible.

The practice however, did not become very widespread until Goffort, a French farmer, in 1877 published a book giving the results of 25 years experience in preserving feed in this manner. The first silo in the United States is said to have been built in Michigan in 1875. From that time until the present day the use of silos and the feeding of ensilage have experienced a steady growth until the last few years of relatively high priced feeds, since when the use of silage has increased rapidly.

Evidence that the silo is essential to the economical production of milk, beef and mutton is obtained from the results of experiments carried on at practically every Experiment Station in the United States. In addition evidence which is frequently more convincing is furnished by livestock farmers who have come to consider the silo indispensable to their operations.

In sections of limited rainfall which would probably embrace most of the dry farming sections of New Mexico, the silo is rapidly coming into greater use. Under such conditions, most of the crops produced are naturally livestock feeds and in many cases distance from market makes it unprofitable to attempt to produce them as cash crops. Further, the man who grows livestock cannot afford to feed his crops in the form of dry fodder exclusively, when so much better results can be secured by using a silo. Another great advantage of the silo in our dry farming sections is that crops produced in years of abundance like last year, may be stored against the years of total or partial crop failure.

If you don't have a silo and your neighbor has, talk with him about it. Ask your county agent to tell you what a silo of the size you will need should cost.

## GRADING FARM PRODUCTS

During the past month wool grading demonstrations have been held in all the principal wool producing sections of the state in order to give the wool grower an opportunity to better acquaint himself with the grades and grading of wool. If farmers in general would become better informed with the commercial methods of grading and handling their product after it leaves the farm, they could place themselves in a position to secure a larger percentage of the consumers' price for their product.

The function of one class of middlemen is to take a lot of farm products lacking in uniformity, properly grade them and prepare them for the specialized markets. So long as a miscellaneous lot of farm products is dumped on the market without regard to standardization, quality or grades, this type of middlemen will continue to function. He is performing a necessary function and deserves a reasonable profit, altho he is in a position to, and no doubt frequently does, deal unfairly with the uninformed farmer. One of the surest ways to shorten the route from the producer to the consumer is for the farmer to better inform himself in regard to the commercial handling of his product, and to standardize his products and properly grade them before they are put on the market.

## THE SEED YOU PLANT

The seed that is planted this spring will be an important factor in determining the crop that will be harvested next fall. It is not only a factor in determining the yield of the crop, but of the quality and value as well. The practice of using for seed that which is too poor in quality to be readily sold has been discarded pretty generally and certainly has no place on a well managed farm. The best is none too good when used for seed.

The variety of seed used may greatly affect the yield, for not all varieties are equally well adapted to all conditions and some are consistently better yielders than others. Some varieties will also produce a product that is of a better quality and that will bring a better price. Local market conditions may affect the price considerably for it is most generally easier to market varieties that are pretty generally grown in the community. When the best variety has been definitely determined, it is well for a community to standardize and use no other.

But the variety in itself will be of little value if the quality of the seed used is not of the best. There is good and poor seed of any variety and it should be selected with care. And above all it must grow. To plant seed that does not grow is a waste of time and money. It takes but little time to test the seed before it is planted and it pays well.

## MAKE USE OF THE INCOME TAX REPORT

A large number of New Mexico farmers found it necessary to make out income tax reports this year, many perhaps, for the first time. It meant no small amount of effort, especially to those who are not in the habit of keeping records of any kind. But now that it is all made out, and all are happy, we presume, because they had an income large enough so that they had to pay a tax, why not capitalize the effort that it took to make the report and see how much can be gotten out of it.

Those who chose to make out their report on an inventory rather than on a cash receipt basis, are in a position to profit the most from it. To make the report it was necessary to make a fairly complete analysis of the year's business. By carefully studying the receipts and expenses, ways may be suggested for increasing the receipts and reducing the expenses, and this will result in a greater income. It may not be desirable to reduce the total farm expenses, however, for it is certainly a good business principle to increase the expenses as long as such an increase results in a proportionate increase in the receipts. By carefully studying the report as a whole, some things will surely be suggested that will result in a more profitable farm business.

### TWO NEW BULLETINS FOR DISTRIBUTION

Two new bulletins have recently been published by the New Mexico Experiment Station and are now ready for distribution. Bulletin 120 "Cotton Growing" by Rupert L. Stewart gives the results of experiments with cotton growing on the station farm. Bulletin 121 "Fusarium Wilt of Chile Pepper" by Leon H. Leonian is a technical bulletin dealing with this disease. Any one desiring either one of these bulletins can secure same by calling on their county agent or writing directly to the Experiment Station, State College, New Mexico.

# Crops That May Be Used for Silage

THE SILO is fast coming into common use in New Mexico. Whereever live stock farming is practiced the silo is an absolute necessity. As the dairy, beef cattle, and sheep feeding industries increase in New Mexico, there will be a proportionate increase in the number of silos.

The crop to plant for silage is of prime importance and should demand much more attention in the future than it has in the past. The crop to plant will depend to a considerable extent, on the locality as regards elevation, temperature and rainfall, but in all cases it should be one of our pithy stemmed annuals that produce a heavy tonnage. Silage keeps in the silo because the sugar is acted on by bacteria and changes it partly to lactic acid, the acid found in sour milk, and to acetic acid, the acid found in vinegar. These acids, in the absence of air, act as preservatives and preserve the feed much the same as vinegar does pickles. Therefore, any crops selected for silage should contain a high percentage of sugar or its equivalent.

### Principal Crops Used for Silage

Our principal silage crops are corn in the humid or irrigated regions; the sorghums under dry farming; and, of late, the Russian sunflower has demonstrated its value in certain localities. Crops intended for silage should be planted as soon in the spring as the soil becomes thoroly warm, provided there is sufficient moisture to effect germination. Silage crops should be planted and cared for in much the same way as row crops intended for grain, altho they can be planted much thicker in the row for silage, but with the same width between the rows. These crops should be harvested as soon as the grain becomes firm; or in other words, as soon as the grain reaches the hard dough stage. At this time the crop will usually produce the heaviest yield and contain the most digestible matter per acre. In case of a drought or frost, crops intended for grain may be cut much earlier and be used for silage, thus changing the would-be failure into a paying crop.

### Sorghums Do Well in Dry Farming Regions

In the dry farming regions of this state, the sorghums stand foremost as silage crops. There are several good varities of them to select from. In the grain sorghums, kafir corn seems to be the most popular. It will produce the heaviest tonnage, and is easy to handle because of its straight stems and the uniformity of the plants. It is very easily harvested and little waste results in gathering the crop. Kafir corn silage is as readily eaten as that from corn, if properly put up, and packs well in the silo. In the sweet sorghums, the ambers probably yield better in case of drought but are not the heaviest yielders in a wet year. They all make an excellent silage.

### Corn Generally Used in Irrigated Sections

In the irrigated valleys thruout the state, practically any crop that is used elsewhere does very well for silage, altho corn seems to be the preferable. Mexican June corn produces a heavy tonnage of silage and in case all the crop is not needed for the silo, the grain crop will be very satisfactory. It is possible to produce under favorable conditions, from 14 to 16 tons of silage per acre on our better lands, and 10 to 12 tons are common. To produce the best results, this corn should be planted early, yet it produces comparatively satisfactory results when planted as late as the 15th of June.

### Sweet Sorghums Make Large Yields

Japanese cane is also one of our heavy yielding crops, and reports have come in where better than twenty tons of silage per acre were produced. This is one of the slower maturing sorghums, rather coarse, and makes a slightly inferior silage to corn, yet on account of its heavy yield, it is in favor with many of the farmers.

The red top, or Sumac sorghum, is a heavy yielder and if planted thick, produces a slightly better grade of silage than Japanese cane.

Several of the amber canes are popular among the farmers. Their popularity lies mainly in the fact that they can be planted extremely late, or may follow a small grain crop and yet produce a very satisfactory crop, but this practice is not advisable as it leaves the soil in a very improverished condition.

Sunflowers growing in Union county under dry farming conditions.

### Russian Sunflower Coming Into Prominence

Lately the Russian sunflower has come into prominence in a great many sections of the country where other crops cannot be satisfactorily grown. It does well in high altitudes where the season is short and also makes an enormous yield on our best lands under perfect conditions, yet, as a whole, it seems to be very hard on the soil, as would naturally be expected from any crop that produces an equal tonnage.

Sunflowers have been planted for a great many years for different purposes, but nearly always for the use of their seed. In some sections the sunflower seed is one of the principal crops grown. In 1918 one and a quarter acres were planted on the College Farm for silage. The soil was not altogether uniform but varied from a stiff clay to a sandy loam. In a few places in the field there were patches of Bermuda and Johnson grass. This field was broken, irrigated, and rebroken, and seeded to Giant Russian sunflower at the rate of eight pounds to the acre, much the same way as corn would have been planted. The sunflowers grew up very thickly and soon shaded the ground. Cultivations and irrigations followed as necessary, but the cultivations had to be stopped early on account of the rapid growth and excessive branching of the sunflowers. It was intended to cut the sunflowers as soon as the first bottom leaves began to dry, or as soon as the first blooms began to appear, but due to the wet weather this was retarded until they were in about 80 percent bloom, and probably did not produce quite the tonnage that they would have if cut earlier.

The sunflower is very easy to cut with a row binder, as the stem is very brittle and pithy, but on the other hand they are very difficult to bind on account of the branches from one row tangling with the branches of the adjoining row. The silage had very fine appearance, was very easily cut with the ensilage cutter and as the weights will show, produced a large tonnage; 49,960 pounds of silage being produced in about 70 days from date of seeding on one and a quarter acres. The silo was opened some eight months after filling, and showed very little decay on top, much less than we ordinarily find with corn. This was probably due to a great extent on the way the sunflower ensilage packs in the silo.

### Value of Sunflower Silage as a Feed

The New Mexico Experiment Station ran two tests on feeding sunflower silage. The Dairy Department used four cows in its test. Two of them were fed cane silage the first thirty-five days, and then changed to sunflower silage; while the other two were fed sunflower silage first and then changed to cane silage. Thirty-two pounds of silage per day were fed to each cow with alfalfa hay, and the regular grain ration the cows were receiving previous to the experiment.

The cows did not consume the sunflower silage as readily as the cane silage and they sometimes left a small amount of it; but notwithstanding this fact the total amount of milk produced on sunflower silage was greater than that produced on cane silage.

The Animal Husbandry Department compared sunflower silage with cane silage as a feed for beef cows and young beef stock. The experiment included two lots of beef cows of different breeds with calves of different ages by their sides, also two lots of yearling beef breed heifers. The experiment covered a period of two months. As the cows became accustomed to the sunflower silage they seemed to relish it about the same as they did the cane silage. The results of these experiments indicate that the sunflower silage is fully equal to cane silage for cows, calves and young stock of the beef breeds. The little difference there was in gain was favorable to sunflower silage. Before the experiment began, all of the animals used in the experiment had been fed regularly a ration of cane silage, but in addition to the silage they were given a limited ration of alfalfa hay and grain which was continued for all lots in the same proportion thruout the experiment.

It is not considered that these results are conclusive but they seem to indicate that the sunflower silage was equal in value to cane silage when fed with a liberal alfalfa and grain ration.

GEORGE R. QUESENBERRY.

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### THE SMALL TOP MILK PAIL.

An old adage says that "Cleanliness is next to Godliness." If this is true any place it is true in the handling of milk. The quality of milk depends almost altogether on the cleanliness with which it is handled. Milk absorbs odors, and occasionally an individual cow gives milk which is not in good condition, but the souring of milk and, in the great majority of cases, undesirable flavors and odors are caused by bacteria. The bacteria are carried into milk by filth from unclean air, unclean cows, unclean milkers and unclean utensils. While foreign matter in milk is repulsive, it would be of little real consequence if it were not for the bacteria it carries.

The contamination from the cow and the air can be eliminated largely by the use of small top milk pails. The common milk pail with flaring sides seems designed to catch as much dirt as possible. The simplest type of small top pail may described as being similar to the ordinary pail with a convex tin top in one side of which is left a round or elliptical opening. Probably an elliptical opening five by seven inches in dimension is the most desirable. This type of pail will prevent more than one-half the foreign matter that falls from the cow from getting into the milk. It has been found as effective in preventing bacterial contamination as the various types of pails with strainer tops.

It is true that a small top pail is more difficult to milk into, but it can be used very easily after a little practice and is well worth while. The man who objects to going to the trouble to use a small top pail apparently forgets that he is producing a human food, a food that is easily contaminated, and that furnishes one of the best mediums known for the growth of bacteria. There is every reason why he should use just as much care in handling milk as he expects of his wife to use in preparing the soup for his dinner. Let us not be guilty of spoiling the best food God ever made.

O. C. CUNNINGHAM.

# Growing Alfalfa On Mesa Soils

RECENT experiments conducted at State College on mesa land prove the adaptability of this soil for growing alfalfa. The limiting factor affecting its growth is moisture. If water could be obtained cheaply, much of this mesa or bench land could be made to produce excellent and profitable yields of alfalfa.

A little over two acres have been under experiment in alfalfa since 1914. This tract was divided into small plats of about 1-18 of an acre each. These plats have received different amounts of water varying from two to five inches at each application in order to study the relation of various amounts of water to yield. Some of the plats were seeded in rows 30 inches apart and cultivated after each irrigation, in order to note the effects of cultivation.

Irrigation approximately in amounts, 34 inches, 42 inches, 48 inches and 56 inches, in 2, 3, 4, and 5 inch applications have been used, with respective average yields for the 4 year period of 9,864, 10,925, 12,433 and 13,357 pounds per acre. In other words the yield increases as the amount of water applied increases up to 56 inches annually at least. While the heaviest yield was obtained with the greatest amount of water, it was not the most profitable yield, because the yield per acre inch of water decreases as the total depth of water increases. When the cost of water is an item to be considered, as it is on this bench land, and will be as long as it has to be pumped, the best use must be made of the water applied. When this is considered, as well as the total yield per acre, it appears that about 48 inches in 4 inch applications is the most profitable amount of water to use for alfalfa on this type of soil.

In comparing the effects of cultivation the results show that it is not profitable to seed alfalfa in rows and cultivate it. In fact the yield on those plats that were cultivated was a little less than on similar plats that were not cultivated. The cultivated plats also required a little more water to maintain them at the same moisture content as the uncultivated plats. Similar results were obtained on plats that were left fallow, some of which were cultivated, others not cultivated, but the weeds kept down with a hoe without making a mulch.

It is not a question of whether or not alfalfa will grow on this mesa land, for this has been demonstrated without a doubt, but it is simply a question of obtaining water at a reasonable cost. If water has to be lifted a very great depth, it cannot be used profitably in growing alfalfa on this bench land. If, on the other hand, water could ever be obtained from a ditch, this soil can be made to produce from 6 to 7 tons of alfalfa per acre. The growing season is a little longer than in the valley and 5 cuttings can easily be obtained annually.

C. A. THOMPSON.

# Comparative Grain Values For Stock Feeding

IN RECENT years the small grains have been more extensively grown in New Mexico than formerly, and in consequence, numerous inquiries have come to the College in regard to the comparative values of these different grains for stock feeding purposes.

Corn, of course, stands as the basis of all feeding operations; hence all the other grains are naturally compared with it. For the actual fattening and finishing of animals for meat production no other grain excels it, but for young growing animals it should be properly supplemented with concentrates rich in protein and bone making material which are furnished to some extent by other grains, such as barley and oats, but which are most readily supplied by the use of cottonseed meal or linseed oil meal.

### Feeding Livestock on College Farm

For the general feeding of all classes of livestock on the College farm, corn is used as the principal grain feed when its price is but little above that of wheat, barley or kafir; but the latter grains are largely used whenever there is much variation of price in their favor. In all kinds of feeding, no single grain is depended upon, but a ration is made up of at least three different kinds of concentrates, and often more, and sufficient cottonseed meal is used in the mixture to give a proper proportion of protein tho when feeding alfalfa hay as a roughage, cottonseed meal is not always essential, the alfalfa furnishing the extra protein needed. Experiments at several Stations have shown that there is very little difference in the results obtained from feeding the four kinds of grain mentioned above. In some experiments one has given a little the better returns, and in some, another, but the results are such that for all practical purposes they may be considered as equal in value for ordinary feeding operations on the farm.

### The Use of Grain Sorghums

Kafir may be taken as representing the different varieties of the grain sorghums, for the feeding value of all of them is practically the same. However, it is claimed that kafir grain has a tendency to constipation unless fed with some leguminous hay such as alfalfa, clover, cowpeas or other laxative roughage. Milo, on the contrary, it is claimed has a beneficial laxative effect, and on that account is superior to kafir. Many tons of these grains have been fed to the College stock without regard to whether it was milo or kafir, and no unfavorable results have been noted, but alfalfa hay has always formed a large proportion of the roughage used in connection with them; so the results might have been different had they been used in connection with carbohydrate roughage such as the stovers and timothy hay.

### Barley an Important Feed

In the northwestern part of the United States barley bears the same relation to feeding operations as corn does in the middle states. Fed to hogs under ordinary conditions it requires about 450 pounds of common barley to produce 100 pounds of gain, which does not differ materially from the quantity of corn, milo or wheat required for the same purpose. On account of its bulkiness, oats should not form the entire grain ration for either growing or fattening purposes, but it is excellent for a part of a mixture, and may constitute as much as one third in conection with corn or barley for fattening, and even more when the principal object is growth and development.

Oats are considered the best and safest concentrates for the horse, but owing to their greater cost they are not made general use of for this purpose in the southwest.

LUTHER FOSTER.

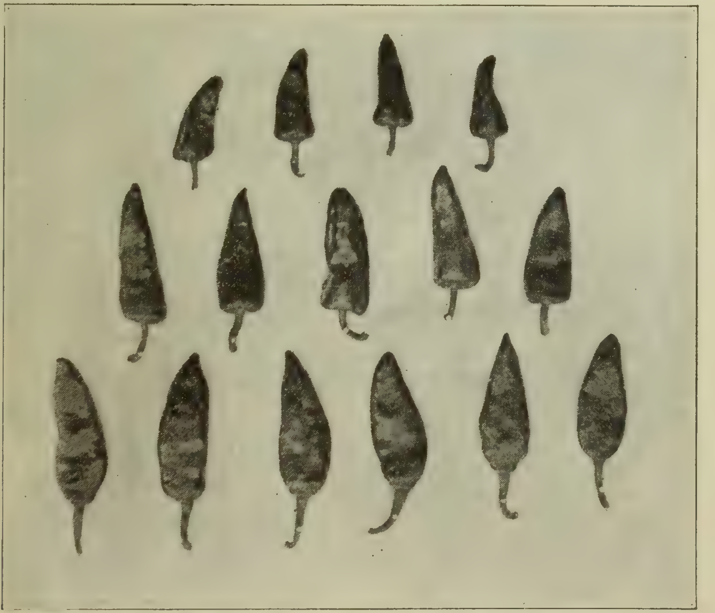
# Chile Pepper Culture

CHILE has been grown in New Mexico, particularly along the Rio Grande, for many years. Its use is now being extended into many other states. California and Texas supply a large portion of the market in states where chile is consumed.

Like tomatoes, cantaloupes and sweet potatoes, chile belongs to the warm season vegetables, and it usually requires a fairly long season for maturity. This vegetable is well adapted to the irrigated sections of the state, particularly in the large irrigated valleys of the Pecos and Rio Grande rivers. The irrigated districts in the inter-mountain valleys in the state, as a rule, have too short a season for the maturity of this crop.

### Methods of Growing Chile

The plant is quite susceptible to frost and on this account it should not be started out in the field until after the danger of frost is over in the spring. It can be started from seed in hills in the field, or by transplanting the plants from coldframes or hotbeds. There are a number of ways of growing chile. The old native method is to make ridges about 3 or 4 feet apart, and about 8 to 12 inches high. Turn the water down these ridges, and in a few days after irrigating, plant the seed every two feet on the side of the



Pods of chile showing the improved and desirable forms, and the unimproved and undesirable forms. The upper row shows six pods typical of No. 9. Notice the lack of shoulder at the stem end. The middle row shows five undesirable pods of No. 9. Notice the deep and wide shoulder at the stem end. The lower row shows four of the typical native chile pods. Notice the deep and broad shoulder and small size of the pods.

ridges at the edge of the water mark. As soon as the plants are 3 to 4 inches in height they should be thinned, and the thinnings transplanted to other places. As the crop grows the cultivation consists of hoeing the weeds from the furrows and ridges, and loosening the dirt around the plant; no horse cultivation is given. A better method is to grow the plants like tomato plants in hotbeds or coldframes, and transplant them to the field as soon as the danger of frost is over, either on ridges or in furrows. If they are transplanted on ridges, they are usually placed on the side or top of the ridge. The subsequent irrigation and cultivation is the same as that for the crop when started from seed in the field.

### The Furrow Method

The furrow method, which was started and developed at the New Mexico Agricultural Experiment Station, consists in first plowing, harrowing and leveling the land thoroly; then making small, shallow furrows from 3 to 3½ feet apart. The furrows can be made with a small shovel cultivator or small plow, from 3 to 4 inches in depth. A small stream of water is allowed to run down the furrows to wet them. In two or three days the plants are transplanted slightly to the side of these little furrows at a distance of two feet apart, and the water is turned down the furrows as soon as the plants have been transplanted. In four to eight days, they are irrigated again. By using this furrow system a small quantity of water can be used, and the work can be done, on the whole, more satisfactorily than in any other way. As the plants grow, the dirt is ridged to them so that by the time they are "laid by" there is a ridge of 8 to 10 inches high. The plant then is in the middle of the ridge, with its roots deep in the soil.

### Keep the Plant Growing

The chile plant begins to bloom early, and keeps blooming and bearing until frost comes; consequently, care must be taken to see that the plant does not stop growth at any time during the season. This means that considerable attention must be given both to cultivation and irrigation. Frequent and light irrigations are better than heavy ones at long intervals.

Because of the susceptibility of the chile plant to the blight, great care should be taken when irrigating, as it has been found at the Station that a large percentage of soil moisture will encourage the development of the blight. Bulletin No. 121, which has just been published, contains some very detailed scientific information on the chile blight. This bulletin can be secured by writing for it to the Experiment Station.

As a rule chile produces a heavy yield. At the Experiment Station from an acre of land with 5,257 healthy plants, there were 10,965 pounds of fresh red chile harvested from variety No. 9, which is an improved variety originated at the Experiment Station. When this amount was dried and sacked, it weighed 2,676 pounds of dried red chile.

FABIAN GARCIA.

# Making the Lawn

WHEN making a lawn, very careful grading is necessary. The lawn should slope down from the buildings in all directions, if possible. The slope should also be made slightly convex, where no irrigation is practiced, which will give the lawn the appearance of being a little larger. Lawn grasses are heavy feeders and it is therefore desirable to have at least eight to ten inches of good rich soil, preferably a rich loam, for their proper development. Well rotted manure should be used in the preparation of the seed bed.

### Preparing the Soil

After a very careful preparation by harrowing, followed by hand-raking, the seed should be sown broadcast; one pound of seed to two hundred square feet of lawn area. This heavy sowing is better than a thin sowing because many weeds will be killed out by the thick stand. Sow the seed broadcast both east and west and again north and south. The seed should then be raked into the surface soil, lightly and rolled, if possible. Sow in a moist soil and sprinkle daily until germination is completed. Spring and fall are the two seasons for making the the lawn. The hot summer months are not desirable because the young grass plants are killed out by the hot sun of summer.

A good rolling after the first cutting will smooth the surface and promote better growth. It is also well to sow a little linseed or cotton seed meal at this time which will produce a quick growth. Wood ashes should be applied a little later in the season at the rate of one pound to one hundred square feet of lawn area. This will add stiffness to the blades. Hen or sheep manure may be used, to advantage, as a top dressing in the fall of the year.

### Seed to Use

For the higher or cooler sections, the following mixture should be satisfactory for sowing the newly made lawn, at the rate of one pound to two hundred square feet of lawn area.

45 percent Kentucky Blue Grass
40 percent Red Top or Herd's Grass,
10 percent perennial Rye Grass,
50 percent White Dutch Clover.

Kentucky Blue Grass should not be sown alone on the lawn since it grows but sparingly and loses color in hot weather. It, however, is the permanent grass of the lawn, all others being rather short lived. The perennial Rye Grass or Australian Rye, as it is sometimes called, lives only about three years, but covers the ground very quickly and furnishes the grass for the lawn the first year.

### Reseeding Old Lawns

Old lawns may be resown in the fall or spring with the above mixture at the rate of one pound to five hundred square feet of lawn area. When lawns are in rather bad condition, it is best to rake them thoroly, getting out all the dead grass, and making a new application of grass seed, followed by rolling.

### Bermuda Grass May Be Used

In the lower and warmer sections the above mixture can be used if persistent care and attention is given. Bermuda grass, however, makes the quickest and hardiest lawn in the warmer and lower sections of the state. This grass is very hardy, and will stand more abuse and neglect than any other grass. It makes a very good lawn but soon begins to reach beyond the boundary and is liable to become a nuisance in the garden, or adjoining fields. It is very susceptible to frost. The first frost in the fall turns it brown and it remains so, during the late fall and winter. Where one wants a lawn that does not take very much work to keep up, the Bermuda grass is the best to plant, but wherever conditions are favorable for the growing of the Blue Grass, it should be used.

Bermuda or Kentucky Blue Grass sod is frequently used for making the lawn. This gives an immediate effect and uniform quality of grass thruout the lawn. It is also good to place sod around the border when seeding the lawn.

S. W. WENTWORTH.

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## INTERNAL PARASITES OF HORSES

Internal parasites infest the internal organs of a great number of our domestic animals. In some instances, they apparently do no harm; in others, they have a profound effect. The most common kind are the pin and wire worms, the lumbercoids, bots, thorn headed worm and tape worm.

### Worms

When horses become infested by worms they may show periodic symptoms of colic, which sometimes end fatally. Sometimes the edges of the teeth lacerate the jaws, and the horse learns to bolt his feed, with an infestation of worms at the same time. We can easily see that such an animal is more susceptible to colic and more liable to be lost from one of these attacks. When a horse is grossly infested with the internal parasites, they lose a certain percent of their efficiency; they become anemic, are easily exhausted and are subject to symptoms resembling colic. It is not always the amount of blood extracted from the animal that causes harm, but the poisonous substances thrown off by the parasites and taken up by the circulation, causing toxemia and death.

### Treatment

The horse should be fasted for 12 hours, then the following can be given in the form of a drench: Turpentine, 1 ounce; Pearson's Creolin, 1 dram; Tinctura of Quassi, 1 ounce. Mix in one quart of tepid water and give at one dose. The following morning or evening give one lb. of $NaSO_4$. This acts as a vermifuge in expelling the dead parasites.

### Lumbercoids

These parasites are not very harmful, nevertheless they cause the animal worry and annoyance. An injection of sweet oil and glycerine, or any of the bitters, i.e., gentian or quassi, are good. The writer has seen horses with the hair completely rubbed off the upper end of the tail on this account.

E. P. JOHNSON.

# HOME ECONOMICS

## A TWO-FAMILY CANNING COMPANY

The following letter was received last fall by Mrs. Edith Hurley, home demonstration agent of Union county, and contains some valuable suggestions that others might profitably use. The canning season will soon be here and it is none too early to begin preparing for it. To be able to cut down one half the expense of supplying the table during the winter months, as these families did, is certainly giving H. C. L. a pretty hard blow. —The Editor.

Dear Mrs. Hurley:—

In reply to your letter of recent date we take pleasure in sending you the history of "The Middick-Criser Cooperative Canning Company" as we proudly call ourselves.

In the first place, as you know, we are neighbors living upon adjoining farms with only one-fourth of a mile between our homes. We have always raised good gardens and up to the year 1918 were content to enjoy these gardens just from planning and planting time until the early frosts got them. We used what we could, gave vegetables to our neighbors who might not be so successful, and let the rest waste. During the long winter months we had to depend upon canned goods from the grocery stores for vegetables and fruits.

Some years when vegetables were unusually abundant we would try canning by the wash boiler or open kettle methods, but the long boiling was hard work and the cost of fuel made our home canned goods cost us fully as much as those we bought. When the U. S. Government asked that the housewives refrain from using goods canned in tin, we did so, and as a result during the winter of 1917-1918 our families did without canned vegetables and fruits.

In the spring of 1918, when we saw that our gardens were to be good we began to devise means for saving the surplus. We read up on drying vegetables and on canning by the various methods and decided that the steam pressure canner would be our most economical method. We wrote to every company advertising such canners that we could find. When we got the price lists we decided that for the present, one canner belonging to the two families jointly would serve our purpose, and in this way our company was formed. We ordered a canner with a ten-quart capacity and as soon as it came we began operations. Our first efforts were with corn, beans, and peas. We made the mistake of waiting until the corn was too matured to begin, consequently it was not as good as it should have been.

We think all spoilage comes from one of three sources: first, not knowing good rubbers; second, using tops that are not suited to this method of canning, and third, to not properly testing the jars and tops.

We began canning the latter part of August, 1918, and canned over six hundred quarts. Averaging these at fifty cents per quart (that is a low estimate) we canned three hundred dollars' worth of goods and we each consider we cut down the expenses of supplying our table at least one-half during the months of November to June inclusive.

This year we began earlier with our canning. We canned over eighty quarts of delicious corn and lost only two quarts, and that from carelessness in testing the tops. We canned about the same amount this year as last but our spoilage is much less. In fact, this year, thanks to your advice regarding testing jars and rubbers, we have lost only three quarts, the two of corn and a jar of beans.

We consider our plan of operating the canner good. We do not have fixed days for using the canner but simply can when it suits our convenience. Some days we all work together, at other times one family uses the canner alone. We acomplish more, however, when we work together, as many hands make light work.

We spend two or three days each season canning soup combinations. This consists of vegetables from both gardens that are good for soup. No two cannings are exactly alike as we have no fixed recipe for it, but we invariably pronounce the last jar opened the "best ever." These soups help to solve the problem of something hot and nutritious, yet light, for the school children's suppers.

At the present prices of canned goods we have at least three hundred dollars' worth of goods on hand and with this we are able to give old man H. C. L. a hard blow.

Now a word for the future. We are planning to can our surplus meat this winter for use next summer and in this way we can keep our jars full all the time and our pantry shelves filled, thus cutting down grocery expenses the entire year.

We would like to tell you of some of our air castles of a model cannery to be built at one of our homes but space forbids.

Trusting that this may help you in getting other housewives to see the importance of canning everything you can, we remain,

Yours most sincerely,
FRANCES MIDDICK.
FANNIE C. CRISER.

## BALANCING THE MEAL

| I. | II. |
|---|---|
| Potato soup | Bean soup (creamed) |
| Potatoes | Meat |
| Macaroni | Baked beans |
| Bread and butter | Rye bread |
| Rice pudding | Pie and cheese |

III.

Vegetable soup
Meat
Potatoes
Spinach or other greens
Tomatoes
Simple dessert, fruit, gelatine, etc.
Cookies

Menu No. 1. is too rich in those foods yielding heat. There are practically no minerals and no tissue building foods except in the milk of the soup and bread. There is very little fat.

Menu No. II is too rich in tissue building foods—beans, milk, meat and cheese, all are sources of the protein or tissue building foods. There are almost no grains present. Beans are served twice, which lends sameness to the meal, and a light soup should take the place of the heavy cream soup.

Menu No. III supplies all the needs of the body. Meat furnishes tissue building substance, potatoes furnish energy, and the other vegetables provide minerals and lend bulk to the meal.

In any family where there are children, milk should be freely used. A quart per day for each child is none too much. Fresh vegetables and fruits as well as cereals (flour, meal, breakfast cereals) should make up a large part of each day's food. The use of meat and eggs can be decreased with less harm than any of the other foods mentioned.

LUELLA MADSON.

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The Alameda School in Bernalillo county is serving hot lunches under the direction of Mrs. Wilson, county superintendent of schools, assisted by the home demonstration agent.

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Get more out of your home by securing a sanitary water supply and by using running water wherever possible. A simple piped system for water may cost much less than you think.

# FARM BUREAU

### J. W. Ware Succeeds Beaty In Otero County

The Extension Service was fortunate in securing J. W. Ware for the Otero County Farm Bureau to succeed Leslie Beaty, who has resigned. Mr. Ware is a University of Illinois man, with special training in horticulture, which is Otero county's important industry, aside from the range interests. He is already on the job and is meeting with success in his initial work.

Mr. Ware has had considerable orchard experience in New Mexico and Oregon and is thoroly familiar with western conditions.

### Dona Ana County Farm Bureau Calls Peterson of Roosevelt County

J. B. Peterson, county agent of Roosevelt county, met with the Executive committee of the Dona Ana County Farm Bureau recently to consider the vacancy caused by the resignation of G. M. Clark. After the conference Mr. Peterson decided to accept the position, effective as soon as his successor in Roosevelt county can be started.

Mr. Peterson has been very successful in the organization of the Roosevelt county Farm Bureau and especially the organization of the Portales Valley Sweet Potato Growers Association, which is perhaps the most successful organization of its kind now in operation in the United States.

While he regretted to leave Roosevelt county at this time, Mr. Peterson was attracted to Dona Ana county because of the abundant opportunities afforded and the wonderful agricultural possibilities of the county.

### New Mexico Captures Silver Medal and $500 for High Oats Yield

When James Ray Reynolds, of Luna, N. Mex., sent his entry for oats in the Farm Journal National Crop Contest in 1919 his letter showed a firm intention to win if hard work would help to do it. His five-acre field of oats averaged 94.02 bushels per acre at the time of threshing, and after it had been tested for moisture, still gave 93.68 bushels per acre. While Mr. Reynolds missed the gold medal and the $1,000 prize, he has the very high honor of the second best five acres of oats in the United States, a silver medal attesting the fact and $500 in money as further convincing proof.

The National Crop Contest was announced by The Farm Journal, of Philadelphia, at a time when it seemed as if the war would require at least one 1919 campaign. The crops in the National Contest were those which would help to win the war and to feed and clothe humanity after it had been won—corn, oats, wheat, potatoes, cotton and alfalfa. For each of the six crops there were gold, silver and bronze medals and prizes of $1,000, $500 and $250 for the best three yields.

When writing about Mr. Reynolds' success, County Agent Powers, now of McKinley county but formerly of Socorro county, said: "It is gratifying to know that in 1917 I carried this seed to the Luna valley on horseback over the roughest range of mountains in the state. I helped Mr. Reynolds to get in the contest and the variety of oats was that of the Swedish Select."

New Mexico has just right to be proud of this prize-winning yield and of the man who made good his intention to win the prize.

The farm bureau women in Union county are working to beautify their home surroundings. They have ordered a thousand rose bushes and many of them are planting trees, vines and small fruits. A number of them have been rearranging their kitchens to make them more convenient.

The women of Bernalillo county are showing an interest in poultry raising and canning of meats.

# BOYS *and* GIRLS' CLUBS

## LET'S HAVE A SEWING CLUB

To people interested in the practice of thrift, garment-making club work seems timely, especially during these trying days of high prices.

Two Extension circulars, Nos. 56 and 57, outlining the Sewing Club work have just been completed at the state office. The plan of work as given in these circulars is to start with simple articles, including repairing, such as patching and darning. Later, the use of commercial patterns is introduced, and hand and machine sewing are combined on the more advanced garments. Emphasis is placed upon the care that should be given to the choice of materials and combinations. The making of well made undergarments is encouraged, for good workmanship is more serviceable and pleasing than elaborate trimming.

The four years' program of work enables the club members to learn how to make their own clothes, keep them in repair, remodel, dye, and to develop skill in buying. The sewing club work encourages the girls to make garments and articles for the home that are appropriate, attractive and economical, thus adding to the happiness and comfort and beauty of the home.

ELIZABETH C. KOGER.

## FIELD CROPS FOR BOYS AND GIRLS

The foundation of all agriculture is the land. But the land is useless unless it is put to work, growing some kind of crop. The crop may be for food or fiber, for man's use, or it may be a feed crop for livestock. All foods and feeds, and most of the clothing materials, are directly or indirectly products of the soil. Then the study and production of field crops ought to be the primary club projects of all our boys and girls who live on the farms of New Mexico.

When considering our major club projects, the state club office has been disappointed because of the lack of interest in the field crops club projects. There ought to be ten boys and girls growing some kind of a crop, where now there is only one. The high prices received for livestock have crowded the crops projects to the background. Our club members and club leaders have not duly considered that successful livestock production depends on the feeds we grow on our farms. But it is a fact that livestock must have feed and it is also a fact that home-grown feeds are the cheapest feeds, except in rare instances. Then every club member in the calf, pig, or poultry club ought to be raising some kind of feed for his livestock.

### Field Crops Pay Well

Because of the fact that field crops have not always produced the most money for the labor expended, is doubtless one reason for the lack of interest in the field-crops projects. But almost any kind of a crop now is a good price. An acre of corn in the irrigated sections should not produce less than 50 bushels, or 2800 pounds. As husked from the field this is worth from $40 to $60. If dried and shelled it usually brings $75 to $80. When ground into meal it will retail for $150. With his spare time from school or other work, a club boy ought to be able to grow from one to three acres of good corn.

A grain sorghum or a bean crop is profitable in the "dry-farming" sections. It is common to raise 1800 to 3000 pounds of kafir or milo, and many grow from 600 to 1200 pounds of beans to the acre. The former would bring from $40 to $50, and the latter from $50 to $75 per acre. In the southern counties of New Mexico, cotton and sweet potatoes are becoming money making crops.

### Pure Seed May Be Produced

Besides growing crops for feed and for the general market, there is another profitable source of income from a field-crops project; and that is growing pure or pedigreed seed. Good seed of all kinds of crops is in demand. But a club member can not hope to establish his reputation and find the best seed market in one year. Seed growing is a special business and must be followed for many years in order to establish a reputation that will bring adequate returns. But our club members can start the seed growing business in a small way and get ready for larger production by the time they have farms of their own.

In conclusion, I wish to call attention to our new plan of the field crops projects. We are beginning with the club plot of one acre for a general crop production project and then building on this for four years till the club member is able to produce good seed or enter a crop rotation project. This plan has the basis for good practical farming methods. The plan ought to appeal to the farmer boys who want to make good at the farming business.

W. T. CONWAY.

## A CLUB STORY

At the contest for State Championship at State College, January 12-17, Grace Bearup of Carlsbad, won first place in Class C in sewing. Grace, who is just 14 years old, manifests the fine spirit of a good ''clubber'' by the excellent quality of her work and her story which follows:

The boys' and girls' club work is a great help to the boys and girls and also a great opportunity.

This is my first year in club work and I have enjoyed it very much. I am going to continue the work thru all three years. The club work has been a great help to me in this way. I can make my own clothes and be economical with them.

The boys and girls have lots of fun along with their work. We have picnics and all kinds of other sports during the months of club work. The work is not hard and it does not take you long to do the work.

We have a fine leader and a good club. The sewing girls won a banner last year and we are working for one this year. The boys and girls that do not belong to the club had better make haste and join. We want a Standard Club. Will you join?

## The Short Tail of a Pig

The following letter received from Frances, shows that when she joined the Pig Club, her motto was: ''Get in the game, stay in the game, and complete the job.''

The shortness started with the mother hog, for when I bought her she had a short tail which never grew any longer, and as some things are contagious, I fear that this tale will be short also.

I fed her two parts bran, one part shorts, and a handful of corn chops mixed in slop with green alfalfa for roughage. As she grew I increased her feed, adding green sorghum to her ration.

She had eleven fine pigs August 20, 1919, all huskies from the first. I fixed a board about six inches from the ground along the side of her bed to keep her from mashing the pigs. In that way, she lost none.

I grease her every week or two with the oil father drains out of our car. This prevents lice.

When the pigs started eating with their mother, I fixed a "creep" for them, a pen where I could feed the pigs and where the mother couldn't follow. In this way, they were able to start shifting for themselves.

I had them vaccinated for cholera, using the double treatment. It didn't make them sick at all, but as I had to cut down on their feed on this account they were very indignant. I still have them all fine and growing.

FRANCES E. PARKER.
Albuquerque, New Mexico.

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The public schools of Las Cruces are serving one hot dish for noon lunch. One of the following dishes is served each day: Cocoa, vegetable soup, tomato soup, pea soup, cream corn, cream celery soup and potato soup. These dishes are very popular with the pupils. It is a well known fact that pupils in school do much better with a hot than with a cold lunch.

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MAY 31 1920

# THE NEW MEXICO FARM COURIER

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GOOD DONAL 3RD, THE $6,500 BULL OF
T. E. MITCHELL, ALBERT, N. M.

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# THE NEW MEXICO FARM COURIER

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# EDITORIALS

(By Director C. F. Monroe.)

## THE ROSWELL MEETING

(By Director C. F. Monroe.)

"The best meeting yet" was the way every stockman who attended the recent Roswell meeting characterized it. Members were present from distant points in the state, such as the Gila river, Gallup, in McKinley county, Cimarron, in Colfax county, and from Union county. T. E. Mitchell, the veteran cowman and Hereford breeder of Union county, was unanimously chosen president, following the completion of the two very successful terms of Victor Culberson of Silver City. The financial report of the association showed a steady gain in membership and funds from its inception. The convention was especially honored by the presence of H. A. Jastro of Bakersfield, Calif., one of the most extensive operators in the range cattle industry in North America. Mr. Jastro, as chairman of the marketing committee of the American National Livestock Association since its organization, has fought consistently for more stable economic conditions as they affect the beef cattle industry. He took the opportunity of stating his position as regards packer legislation, conclusively showing the fallacy of statements that he had gone over to the packers. In this connection a most comprehensive paper on the work of the market committee mentioned above was read by C. M. O'Donel of the Bell ranch, who was honored at the last meeting of the American National Livestock Association by being elected to the position of its vice-president.

W. R. Morley of Datil urged state control of the remaining unoccupied public domain in a well prepared paper, setting forth greater economy of operation by the state as compared with federal forces. The necessity of an income to the state from public domain, as an offset to the cost of roads, schools and policing, was also presented by Mr. Morley. However, a tribute was paid to the efficiency of the forest service of the Department of Agriculture in its management of the national forests.

The annual address of the president might well be characterized as the keynote speech of the convention. A resume was presented of the work of the association during the past year, and the general policies and needs of the association were set forth by the retiring president on the first day of the convention.

Lack of space will not permit individual mention of all the addresses of the meeting. However, the notable feature of the entire convention was the excellent attendance and undivided attention of all to the subjects of discussion.

During the three days of the session, two meetings were held between representatives of the Cattle and Horse Growers Association, State Sheep Growers Association and New Mexico Farm and Livestock Bureau. Plans were suggested for cooperation in handling problems of mutual interest to all organizations. Discussion centered around methods of feeding out stock on the valley and dry land farms, which could not profitably be maintained longer under range conditions. The Extension Service was designated as the agency for conducting such operations.

It is indeed a noteworthy event when representatives of the three most important organizations in the state get together for a discussion of mutual problems, and especially when these organizations represent at least 95 per cent of the actual producers of the state.

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## BETTER LIVESTOCK CRUSADE

(By Director C. F. Monroe.)

The better livestock crusade, which has been in progress the past few months, has been meeting with a liberal response from the stockmen of the country. Every person in the United States owning any females, even poultry, is eligible to join the crusade. The only requirement is that the owner agrees to use only purebred sires and signs an agreement to that effect. Everyone signing such an agreement is given an emblem issued by the United States Department of Agriculture. Blanks for the purpose are to be had from your county agricultural agent.

If a range bull adds $10 in value to his offspring above the value of calves from scrub sires and his period of usefulness on the range is estimated at only three years, the owner can well afford to pay $600 for him. This is based on an average of thirty cows to one bull, under range conditions and an average calf crop of 66 per cent. When one considers the possibilities of increasing the length of fleece on range sheep by use of the right type of rams, thus bringing the wool into a higher grade, the reason is very apparent for paying more attention to the type of rams used. Under farm conditions, when the factors of feed and care are more under the control of the owner, the purebred sire can give even a better account of himself as compared with the sire of mongrel breeding.

If you have not had the matter called to your attention before, call on your county agent or drop him a line. He will be glad to furnish you with enrollment blanks for the better livestock crusade.

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## CROP PROSPECTS AND THE FUTURE

Reports coming from different sections of the state indicate that prospects are still fair for another good crop altho the drying spring winds have reduced considerably the moisture in the surface soil. There was a fair amount of moisture in the soil, however, and coming after the bumper crop of last year, everyone still seems hopeful. Two good years, following one another, would mean much to the state after the dry spell of several years' duration.

Unfortunately, especially for the dry farming sections where so much depends on the rainfall, no reliable way has been found for predicting the weather for any great distance in the future. Contrary to a common belief, there seems to be no relation between the weather conditions of one year and those of another. Weather conditions do not appear to come in cycles and no way has been found of predicting whether a wet year will follow a wet one, a dry one a dry one, or whether some other combination is likely to occur.

There seems to be only one safe plan to follow, and that is to expect an average year, but be prepared to withstand a poor one or take advantage of a good one. Any one who plans his operations on this basis for a long period of years, after having familiarized himself with average conditions, is reasonably sure to come out on top. But he who simply plans his operations from year to year is taking a gambler's chance and in the long run is more apt to lose than to win.

It is none too early to begin planning for a dry year, which will again surely come. Feed safely stored from an abundant crop for a dry year, which may follow, is a cheap form of insurance. Silage in a well-built silo will last for several years. Are you going to be prepared?

## DR. ROBT. W. CLOTHIER HEADS AGRICULTURAL COLLEGE

Dr. Robert W. Clothier, professor of farm economics of the Mississippi Agricultural College, was selected president of the New Mexico College of Agriculture and Mechanic Arts to succeed Dr. Austin D. Crile, whose resignation took effect March 1. The board of regents selected Dr. Clothier after a delay of several months in their effort to find a man who was well qualified to fill this responsible position. Dr. Clothier took up his duties at the college about the middle of April.

Dr. Clothier comes to New Mexico well prepared and brings with him a wide experience in agricultural instructional and investigational work. He graduated from Kansas Agricultural College in 1897 and received his M. S. degree from the same school. He did some graduate work at Cornell University and received his Ph. D. from George Washington University in 1917.

After graduating from the Kansas Agricultural College, he was connected in various capacities with Kansas Agricultural College, Missouri State Normal School and the University of Florida. For six years, 1907-13, he was acting dean of the College of Agriculture, University of Arizona. For the succeeding six years, 1913-19, he was connected with the office of farm management, United States Department of Agriculture, and during this time did some valuable work, making a farm management survey of three irrigated sections of southern Arizona. Since 1919, has has been professor of farm economics at Mississippi Agricultural College, doing cooperative work with the United States Department of Agriculture.

New Mexico can well regard itself very fortunate in having secured a man with Dr. Clothier's qualifications to head its agricultural college, after the very successful administration of Dr. Crile. Having secured his early training in a western state, and having spent most of the rest of his life in the west, he is especially well equipped to take up the work in New Mexico. The people can feel assured that under his leadership the college will continue to grow and serve the state in a most efficient way.

## COOPERATIVE WOOL MARKETING ASSOCIATION

The meeting of the wool growers held at the Albuquerque Chamber of Commerce called for the purpose of organizing a state-wide cooperative marketing association, was well attended by representatives from most of the leading wool producing sections of the state.

Organization was perfected by the selection of the following board of directors: W. A. Spence, Carrizozo; O. E. Troy, Raton; Jose A. Baca, Pendaries; Eugenio Perez, Vaughn; Thomas Goulding, Aztec.

The by-laws of the association provide for a board of directors of seven members, however, but five were chosen at this time with the idea of filling the vacancies later from sections of the state not represented at this meeting. William A. Spence was chosen acting president; O. E. Troy, acting vice-president; Jose A. Baca, acting secretary-treasurer. Permanent officers are to be chosen when the board of directors is completed.

It is the purpose of those in charge to hold a series of meetings at important wool-producing centers at a very early date for the purpose of organizing local units and securing membership to the association.

Mr. John Holliday, representing the National Wool Warehouse company of Chicago, was present at the meeting and presented the advantages of their organization for handling the wool of association members.

No definite decision has been made by the directors relative to the handling of this year's clip but the matter is being considered and an early decision will be announced.

Notwithstanding the attendance was not up to the expectation many letters were received from various growers thruout the state expressing regrets of their inability to attend, yet expressing their intention of identifying themselves with the association.

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Four communities in Dona Ana county have organized under a local leader and written up an outline of the work they intend to accomplish in household conveniences. These women are convinced that housework need not take the time and strength that it has absorbed in the past and are setting themselves to devise ways and means of lightening their burdens and giving them more time to devote to family and community welfare.

# May "Drop" of Fruit

UNDER eastern conditions the dropping off of small fruit during the early summer is designated as the "June drop." Under our southwestern conditions, it is called the "May drop" for the reason that most of the young fruit that falls off, drops either during the latter part of April, or in the early part of May, depending on the altitude and latitude of the locality. Sometimes it is wondered why there should be such a heavy drop, particularly among the pome fruits, such as apples and pears. This may be due to a number of reasons, the most important of which are frost injury and lack of proper flower fertilization.

Among fruit trees it is not uncommon to find that many varieties are partly or totally self-sterile; that is, they will not set fruit with their own pollen, and in order to get a crop the flowers must be cross-fertilized. Many varieties of pears show this tendency very strongly. The Bartlett, under eastern conditions, has been classed as self-sterile. Under western and southwestern conditions, it is found that this variety is not necessarily totally self-sterile.

### Self-Sterility Not Always a Permanent Feature.

Self-sterility, or self-fertility, is not always a permanent feature of any one variety. Climatic and seasonal conditions may modify this habit materially. Self-sterile varieties in some localities may set a good crop in other places, and some years the seasonal conditions may be so unfavorable as to materially increase the tendency of self-sterility in the same locality. W. S. Fletcher in his bulletin on "Pollination in Orchards" states that "Self-sterility is not a constant character with any variety." Darwin has pointed out that a plant which was known to be self-sterile in Brazil became self-fertile in one or two generations after it had been transplanted to, and grown in England.

### Experiments With Bartlett Pear.

The results of a preliminary investigation to ascertain the degree of self-sterility of the Bartlett pear in the experiment station pear orchard indicate that this variety may be from 15 to 20 per cent self-sterile with its own pollen; but when exposed to cross-pollenization that at least 46 per cent of the blossoms may set fruit.

METHOD OF CONDUCTING POLLINATION EXPERIMENTS

The following table gives in detail the results of this preliminary test:

| Tree No. | Date Bagged | No. Bagged | Spurs or Single | Exposed | Dates Bags Removed | Number Set April 27 |  | Number Remaining June 14 |  | Number Picked August 9 |  |
|---|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  | Bagged | Exposed | Bagged | Exposed | Bagged | Exposed |
| 1 | 3-20 | 100 | Spur | 100 | 4-27 | 16 | 46 | 16 | 43 | 13 | 38 |
| 2 | 3-20 | 100 | Single* | 90‡ | 4-27 | 13 | 43 | 10 | 36 | 9 | 33 |
| 3 | 3-20 | 100 | Spur | 100 | 4-27 | 28 | 43 | 7 | 37 | 6 | 36 |
| 4 | 3-20 | 100 | Spur | 100 | 4-30 | 8 | 51 | 8 | 51 | 8 | 50 |
| 5 | 3-20 | 100 | Spur | 100 | 4-30 | 21 | 50 | 12 | 47 | 10 | 44 |

*All the buds but one were removed from each spur on No. 2 when they were bagged.

‡There were only 90 sacks remaining when the sacks were removed. Hence, only 90 buds were used in the observation for tree No. 2.

It will be seen that in 500 buds, which were protected on March 20, there were slightly over 17 per cent show slightly over 46 per cent set. By June 14, there was about 10 per cent of the protected buds that had fruit that had set fruit on April 27, while the same number of exposed buds and about 42 per cent of those exposed. On August 9, when the fruit was picked, there was 9 and 42 per cent of the protected and exposed fruits, respectively, that were gathered. Thus it is seen that even under our southwestern conditions, there seems to be a marked tendency for the Bartlett pear to be more or less self-sterile with its own pollen. There- pears. The pear growers in the neighborhood were also alarmed to see this unusually heavy drop. The result was that the pear crop was not as large as it was first expected, judging from the heavy crop of blossoms that the trees had. Many theories were advanced by technical, as well as practical men for this heavy drop. Some thought that the spring frosts had fore, it would seem a better practice in planting pear orchards to always plant other varieties for pollenizing purposes.

### Cause of 1919 Pear Drop.

At the experiment station the Bartlett pear sets a heavy crop of blossoms every spring. In 1918 there was a heavy crop of fruit produced. In the spring of 1919 the trees were in heavy been responsible. This could hardly be substantiated by the weather bureau minimum thermometer readings of 32, 29 and 32 degrees on the mornings of April 9th, 10th and 11th, respectively. This was not low enough to hurt the flowers, or newly set fruit.

After investigating the reasons for the heavy drop, and studying over the above table, it is believed that the unfavorable seasonal conditions, which bloom April 12. From the 7th to the 10th there was considerable cold wind, accompanied by a drizzly rain. During the latter part of April and the first of May it was noticed that there was an exceedingly heavy drop of occurred during the blooming period of the trees, were responsible to a large degree, for the heavy drop, which, in turn, was probably due to the lack of proper cross pollenization.

FABIAN GARCIA.

# Growing Corn in New Mexico

CORN is one of the most important crops that are grown on the average American farm. This is due largely to the fact that corn is so useful as a food for both man and beast. It has been quite often said that New Mexico would never become a corn-producing state, when compared with Iowa, Illinois, Indiana, Ohio or Missouri. Be that as it may, the fact remains that good yields of corn are being secured year after year in this state by some farmers in both the irrigated valleys and the dry farming districts.

There are many reasons why some failures are made with this crop. Among these could be named the planting of a variety unsuited to a given locality, planting too late in the season, allowing weeds to grow in the corn and thus rob it of plant food and soil moisture, a poor stand, resulting from poor seed; lack of moisture, poorly prepared seed bed, etc. It is quite obvious that maximum yields cannot be secured with a 50 per cent stand.

### Securing a Good Stand.

Therefore, special care should be exercised in getting the best stand possible. The customary rate of planting varies with the soil and climate and it is also regulated to some extent by the size of the plant. If the variety is a rank grower, it will require more space and therefore fewer hills per acre should be planted than when the smaller type of corn is used. In the higher altitudes where the growing season is short, the plants do not grow large and if sufficient moisture is available, the corn should be planted thicker than would be the case in the lower altitudes, where the growing season is longer. Not so much depends, however, on how many hills there are per acre, as how many missing hills there are.

### Preparing the Seed Bed.

Corn will usually grow and produce best on a well-prepared seed bed, but cultural methods must vary with the local conditions. So far as tillage is concerned, as a factor in maintaining crop production, the following purposes may be set forth: The land should occasionally be plowed moderately deep, so as to get it well aereated. Light soils do not require as deep plowing as heavy soils. The plowing should be done when the land is in proper condition to pulverize. In some sections this will be in the fall and others in the spring. The land should be worked down to a good seed bed with suitable pulverizing tools. A good loam soil will require but little filling after being plowed, but the more heavy soils will oftentimes need considerable work to get them into proper condition for the seed.

### Methods of Planting.

The seed may be planted in several ways, but this, again, will depend on local conditions. In the dry farming districts, where moisture is the limiting factor in crop production, it is often best to plant the corn in the list, but in the irrigated valleys and the more humid sections the seed is usually "surface" planted. Some planters have a furrow opener which opens a small furrow in the bottom of which the seed is deposited. This is a very good practice to follow, especially when the surface soil has become dry, as it gives a chance to get the seed into the moist soil without covering it too deeply. One to three inches is usually the best depth to plant corn.

GRADING SEED CORN

### Varieties of Corn.

There are probably one thousand or more varieties of corn, all adapted to a particular purpose and a particular locality. There are a number of varieties being grown in New Mexico and it is quite improbable that corn varieties will be standardized to such an extent as the beans have been, but it is not unlikely that fewer varieties will be grown in the state in years to come. In the irrigated valleys, where the seasons are reasonably long, Mexican June, Iowa Silver Mine, Reid's Yellow Dent and Hickory King, are among the most grown varieties, while in the higher altitudes, where the season is somewhat shorter, Australian White Flint, Swadley's and Minnesota No. 13, seem to predominate. However, there are strains of some of the first mentioned varieties being grown even in these higher elevations with reasonably good success.

At the New Mexico experiment station, in the Mesilla Valley, the Mexican June has given the largest yields, over a series of years, of all the varieties of corn planted. It is a white dent variety, of tall habit of growth, and requires a long season to mature.

A little care exercised at planting time will insure a better stand of corn and in the end a better yield. It is not a difficult task to test seed corn, in fact, it is one of the easiest seeds to test. If corn is to be planted with a planter or drill, it is a good idea to grade the seed so that the planter will drop uniformly. Corn responds to good care and if the New Mexico farmer would take as much pains in raising corn as do the farmers in the so-called corn belt, it is quite likely that the average yield in this state would be much higher.

RUPERT L. STEWART.

# The Chicken Sticktight Flea

THIS chicken pest probably had its origin in Ceylon, for the first records of it are of specimens sent from Ceylon to England. The first record of it in the United States came from Florida in 1886. At present it is distributed over all parts of the United States and is a serious menace to poultry when not combated.

Eggs are laid by the female flea after becoming attached to the host and are dropped promiscuously on the ground. The most desirable places for them are dry, dusty places in the shade. The eggs hatch in from 80 to 90 hours after being laid. A female flea lays eggs every day. The eggs hatch into a maggot-like worm, which lives in the dust and trash on the ground for about thirty days. After this stage the larva lives in a silken cocoon as pupa. During the spring and summer, when conditions are favorable, this stage lasts about five days, but during the fall, with the coming of winter, it carries over thru the winter and lasts till favorable weather in the spring. After pupating, the flea hops or crawls to a chicken and attaches itself for the remainder of its life. Fleas are carried from one place to another by infested animals.

## Method of Eradication.

In view of the fact that the sticktight flea is in an inactive state during the winter and early spring and that a dry shady place is essential for their growth and development, it appears that the time to combat them most effectively would be during these seasons. The practice of waiting till the hens become covered with fleas before fighting them is an expensive and ardous task.

Flooding the yards, houses and other places where chickens congregate in the shade to dust and wallow, will kill the pupae living over thru the winter. Tear away the old dirty burlap and curtains from the house fronts and let the sunshine in, which will also kill all stages of the flea except the adult stage. Get rid of the flea before he gets a start this spring.

Should fleas be found on the chickens, it is possible to get rid of them by applying vaseline 10 parts and kreso dip 1 part or vaseline 10 parts and carbolic acid 1 part or lard 2 parts and kerosene 1 part. These must be applied carefully and rubbed well into each cluster of fleas on the chicken. Gasoline or kerosene may be used straight with a small oil can. A drop or two on each colony of fleas will kill them. At the same time the yards and houses must be thoroly cleaned or the cleaning of the fowls will be of no use for there is always another crop of fleas coming on in the dry dirt and trash around where the chickens congregate or wallow in the shade.

R. B. THOMPSON.

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## REPORT OF THE FIRST NEW MEXICO EGG LAYING CONTEST

### For the Month of March 1920

The fifth month of the contest has been one of heavy production in all pens. Two Leghorn hens and one Rhode Island White have been replaced by their alternates. The Leghorns have both developed ruptures in the oviduct and the Rhode Island White has become paralyized. Seventy dozen eggs were produced and brought a return of $28.00 at a feed cost of $13.37, or a profit over feed cost of $14.63 for the month. This brings the net profit to date to $43.43, or nearly one dollar per hen for the first five months of the contest. A barred Plymouth Rock hen has displaced a White Leghorn in second place. Hen C259 still maintains a comfortable lead which she established early in the contest. The production for the month has been about 47 percent.

### Pen Production

| | Owner | Pen. Pro. for Month | Pen Pro. to date |
|---|---|---|---|
| 1. | Gentry Poultry Farm | 86 | 314 |
| 2. | Julius A. Ferguson | 84 | 302 |
| 3. | G. G. Gilmore | 89 | 283 |
| 4. | G. Soulard Turner | 88 | 276 |
| 5. | Neil Saunders Wheeler | 83 | 239 |
| 6. | Henry Holland | 97 | 222 |
| 7. | Harley Caldwell | 71 | 197 |
| 8. | Mrs. Sam Stovell | 88 | 165 |
| 9. | K. Roehrs | 74 | 147 |
| 10. | C. B. Allaire | 67 | 144 |

### Highest Individual Production for March

| Owner | Hen No. | No. Eggs |
|---|---|---|
| Henry Holland | C651 | 24 |
| Neil Saunders Wheeler | C618 | 23 |
| Gentry Poultry Farm | C259 | 22 |
| Sam Stovell | C608 | 22 |
| Gentry Poultry Farm | C258 | 21 |
| G. Soulard Turner | C263 | 21 |
| G. G. Gilmore | C266 | 21 |
| Mrs. Sam Stovell | C606 | 21 |

### Highest Individual Production to Date

| | Owner | Hen. No. | No. Eggs |
|---|---|---|---|
| 1. | Gentry Poultry Farm | C259 | 93 |
| 2. | Neil Saunders Wheeler | C618 | 74 |
| 3. | Julius A. Ferguson | C281 | 72 |
| 4. | Julius A. Ferguson | C283 | 71 |
| 5. | G. G. Gilmore | C266 | 70 |

# Celery Culture

CELERY is a very profitable crop when properly grown, and it is not difficult to grow where the different operations are understood and performed diligently.

### Preparation of Seed Bed

The little plants may be grown in flat boxes, say 1½′ x 2′ 3″, with a few holes bored in the bottom for drainage. Put in one inch of sand, then fill the box level full of good sifted garden soil. Press the soil down, level, sow the seed broadcast, and cover by sifting on a little less than one-eighth of an inch of soil. Of if very many plants are to be grown, it is better to use the coldframe or hotbed. In the southern part of the state, the coldframe gives plenty of heat for early plants. It is best to locate the seedbed on the south side of a wall which will give protection from winds and greatly increase the temperature of the bed. If the plants are grown in the late spring, the bed may be covered with cloth or burlap to prevent the sun from shining directly on it and drying it out.

The soil for the coldframes or hotbeds should be rich and easily handled, preferably a rich, mellow, sandy loam which has been thoroly pulverized. The bed can be leveled by the use of a straight edge and level. The seed should then be sown, and either raked in, or covered by sifting about one-eighth of an inch of dirt over it, after which it should be sprinkled, care being taken not to wash it. The seedbed should be kept moist by frequent sprinklings until the plants are up, but it should not be soaked. If the bed is kept moist and warm the plants will be up in from one to three weeks, depending on the soil, temperature, and season of the year. But if the bed is neglected and allowed to become dry on top for a day or two, the little plants will likely be killed.

Celery seed loses its vitality very quickly, therefore, it pays to buy the very best seed, even at a high price. The celery may be either thinned in the seedbed and allowed to grow to transplanting size, or transplanted to another bed, and from that to the field. The plants should not be thicker than three or four to the inch in rows six inches apart. It pays to have good stocky plants for transplanting.

### Celery Soil

Most soils will grow celery, but for the best results the soil must be rich, moist, and loose. Remember celery is a gross feeder, consequently, plenty of manure should be applied and rotation practiced. The soil in the field should be well prepared by plowing deeply, harrowing and dragging until level.

### Transplanting to the Field

The transplanting of the little plants to the field is a particular operation, and requires close attention, particularly as regards irrigation until they are well established. An excellent method is to make little furrows and run the water down them before the plants are set. As soon as the soil can be worked, the plants are transplanted slightly to the side of the small furrow, and water is immediately turned down the furrow, care being taken not to allow any of the plants to wilt down before the water reaches them. It is best to have a large crew for transplanting so the water can be allowed to follow down the rows as fast as the plants are set. After the first irrigation, it is a good practice to irrigate again within five to eight days depending on the heat of the sun. The first few irrigations are given thru the little furrows made for transplanting, later the dirt is thrown to the plants and the water run between the ridges. Celery requires frequent irrigations and mostly while it is making its fastest growth, which is in the late summer. As it approaches maturity, water should be applied sparingly, particularly while it is being held for further blanching.

### Blanching

Celery may be blanched either by the use of boards or paper, by trenching, or by hilling up well in the field. The early varieties, such as Golden Self Blanching, White Plume, and Paris Golden can be quite easily blanched with boards or paper, while the late kinds, as the Giant Pascal, are usually blanched in the field by hilling, or in the pit. In the warmer districts, excellent results can be gotten by hilling the celery well in the field and allowing it to remain there until it is sent to the market. If the celery is to blanched in the field, the rows should be from four to four-and-a-half feet apart; and the plants six or seven inches in the row.

A. B. FITE.

# The Striped Cucumber Beetle

EARLY in the season, with the appearance of the cucumber, squash, and melon plants, often before they are above ground, they are attacked by many hungry black and yellow striped beetles, known as the striped cucumber beetle, striped bug, melon bug, etc.

The injury to the cucumbers is three fold, (1) due to the direct attack by the insects to the plants above ground, (2) indirectly to the beetles as transmitters of disease germs, and (3) due to the work of the larvae upon the roots under ground.

The beetles hibernate over winter in the ground where they have been feeding the previous fall or along the edges of the woodlands, along weedy margins of gardens or on the ground under the vegetation. They emerge early in the spring and feed on cucurbs for a few days; then they pair and deposit their eggs singly in the crevices of the soil or in openings around the stem of the plants.

The larvae hatch in a few days into full grown worm-like grubs. They bore into the roots and into the melons lying on the ground. The larvae becomes full grown in about a month, then pupates in the soil, remaining in this stage about a couple of weeks, according to the temperature.

The adult beetles do a great deal of damage to the older plants by eating the leaves and gnawing the stems of the plants. They do a great deal of mischief, too, by being carriers of a bacterial wilt.

**Control**

Three methods are used in the control work of this pest—preventative, cultural, and insecticidal. Wire screen coverings are used to prevent injury to young plants. Supports can be made for the screens out of barrel hoops or strong wire bent in the form of croquet arches. Soil can be thrown along the edges of the screen to make it beetle proof. This method is practical only in small gardens.

As soon as the crop is harvested the vines should be removed or burned so the adults will not have a place to hibernate.

It is well to plant an excess of seed so as to distribute the attack. After the first danger is past the hills are thinned out to the desired number. Trap crops can be used in control work. Plant a few rows of early squash before planting the main crop and again plant a few more at the time you are putting in the main crop. The beetles will collect upon the trap crop and it is an easy matter to destroy them by spraying with pure kerosene.

Protect the main crop with insecticidal methods. Dust with one part of arsenate of lead to four parts of air slacked lime. The arsenate of lead may be used as a spray at the rate of one pound (powered) to 30 gallons of water, or about one ounce to 2 gallons of water. It is well to stimulate the growth of the plants with plenty of good fertilizer. The damage from the striped cucumber beetle can be greatly reduced by exercising good judgment in planting, and the use of the above mentioned methods.

J. G. GRIFFITH.

# HOME ECONOMICS

## WOMAN TRAVELS 457 MILES A YEAR TO GET WATER FOR FAMILY

WALKING a distance of 457 miles a year to secure water for family use is the record of one New Mexico woman as revealed by the Survey of Farm and Home conditions made by the U. S. Government last June, which has recently been summarized. This in addition to doing the housework, helping with the farm work and with the care of the livestock. The following is the story of her life on the farm as told by herself in the survey sheet which she filled out for the survey.

**Woman Tells Own Story**

"Live on a farm of 800 acres, 1¼ miles from a small town. No auto, but use horses and wagon as a means of transportation. During the first six months of 1919, five members of the family were ill in bed, making a total of 23 days illness in bed for the family for the first half of the year. There are six in the family; two children between ten and sixteen, and two under ten years of age; eight extra helpers for dinner during harvesting, silo filling or threshing; no extra help in the house. The family lives in a six room house, lighted with lamps and heated by stoves. Do the washing and ironing for the entire family; make all my own outer garments and part of the childrens' clothing; bake all the bread; have the help of three of the children in carrying in wood and coal and running errands. No labor saving devices except a built in kitchen cabinet or cupboard, a sewing machine, and a washing machine run by hand power. Carry the water for household purposes a distance of 400 feet; have the care of 50 chickens, the eggs are marketed at the nearest store and the money is used for general housekeeping expenses. Help with the milking of 32 cows, wash the milk pails and separator. The cream is sold and the money used for household and farm expenses. Care for the vegetable garden, help care for the livestock and help with the farm work for eight months in the year. Help keep the farm accounts but keep no household accounts. Rise at 5:00 o'clock A. M. in the summer and the working day ends at 9:30 P. M. with no time free. In winter the day begins at 6 A. M. and lasts until 8 P. M. with no time off. Am working on an average of 15¼ hours per day with not even the noon hour free, for 365 days in the year. No vacation and no special days away from home during the year."

This is probably an exceptional case, but the results of the survey of farm and home show that very few of the New Mexico farm homes have labor saving conveniences. Two hundred forty-four women filled out the survey blanks and about one-half of these women reported water brought by hand from a distance of 3 to 400 feet, or an average of 47 feet. In over 60 percent of these cases, the housewives did the carrying.

### Amount of Water Carried

One woman who lived on a farm and carried water for a family of five which statistics show to be the average sized American family, reports that it takes six pails of water for the ordinary day and she has counted many times the 16 pails it takes to do the family washing. Six pails of water 365 days in the year makes 2190 pails; 16 pails for the washing, 52 weeks in the year, make 832 pails; making a total of 3022 pails of water for a family of five in a year. Taking this as the usual amount of water used, and the 47 feet as the average distance the water is carried, the average distance traveled in one year is 53 miles. It hardly seems possible, but the housewife must travel 47 feet to the water and 47 back to the house, making 94 feet for each pail of water, and in carrying 3022 pails she must travel 284,068 feet or a total distance of 53 miles. For the woman cited above it amounts to 457 miles.

### Weight of Water Carried

Besides traveling this distance she must bear the weight of the water. Ordinary pails contain from 2½ to 3 gallons. Taking 2½ gallons as the amount contained in one pail, the 3022 pails will equal 7555 gallons. Using 8½ pounds, which is a low estimate, as the weight of a gallon of water and the container, she carries in one year 642,175 pounds or 32.1 tons. This is not all, for the water she carries into the house must all be carried out again. So she lifts another 32 tons in carrying it out which makes 64 tons carried and a distance of 53 miles traveled in one year to furnish the family with water.

The woman who bears the children cares for them, cooks for them, their father and the hired man; does the washing, ironing and family sewing; does the housecleaning; cares for the chickens; weeds the garden; travels miles about an inconvenient kitchen doing her housework; walks 53 miles and carries 64 tons of water during the year. Small wonder that as soon as possible the farm woman wants to leave the farm and move into town where she can have more conveniences and, as she thinks, life is more pleasant and less strenuous.

The farm bureau now being organized all over the country are for the purpose of remedying such conditions as these, and by introducing simple and inexpensive equipment, eliminate inconvenience and drudgery and make work on the farm convenient and life independent and happy.

The future will see the farmer and his wife living, not an inactive, unsatisfactory life in town, but in their country home with all the conveniences of the town house, coming down to a contented, happy old age on their farm.

If you are interested in simple and inexpensive apparatus for putting water in the home, and other household conveniences, call on your county agent, home demonstration agent, or write to Extension Service, State College, N. M.

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## KEEP THE FLIES OUT OF THE KITCHEN

Spring is here and many of us have heard the familiar buzz of the house fly as we have gone about our house work. We have skillfully saved one from drowning in the pitcher of cream we had intended for dinner or we have seen him sampling the sugar and bread that we had placed on the table for supper. Then out of the door he flew to the stable lot to tell his companions of his good fortune, and presently returned with the whole fly family to enter the house at the first opportunity.

Each member of the fly group leaves something in return for the food he gets. It may be dust, filth, bits or garbage or manure or disease germs. The fly does not care, the careless housewife does not care and the members of her family eat the food that the fly has contaminated.

Who would think of drinking a cup of milk into which dust and particles of filth have been stirred? Yet this is just what we do if we use milk from which we have rescued a fly. Who would deliberately prepare a dish of delicious creamed potatoes and then add to them millions of disease germs which have been thrown off from the body of some unhealthy person? Yet this is what we do if we allow flies to crawl over our tables, dishes and food.

A few flies will get into the best screened house but it is a work of carelessness and uncleanliness to tolerate them in numbers. **Filth and flies go together.** Clean up the yard; see that no garbage or manure is left to collect and provide a breeding place; screen the windows and doors, and swat!

LUELLA MADSON.

### RESTORING AND FRESHENING COLORS

One of the most popular ways of restoring colors in garments is by the use of a dye soap. There are a number on the market which are very satisfactory. The color and shade desired may be purchased at the drug store.

It is always well to try out the dye soap with a small piece of the material, for by combining colors it is possible to get the desired shade. This may be used for either cotton or silk.

When washing cotton materials we may freshen the colors by soaking the garments in a weak borax solution before washing. Vinegar is also used in reviving colors. Add one tablespoonful of vinegar to each quart of cold rinsing water. Thoroly saturate the article, wring lightly and dry quickly.

MARYETTA WILSON.

# FARM BUREAU

## FARM BUREAUS PUSHING COOPERATIVE WAREHOUSES

IF THE state and county farm bureaus meet with the proper support there will be close to fifteen cooperative associations in operation in New Mexico within the next twelve months. Already about seven local warehouses have been built cooperatively in the bean-growing section as a part of the New Mexico Bean Growers' Association. The same plan has just been put into operation in Silver City by the New Mexico Mohair Growers' Association, which was organized by the Grant County Farm Bureau.

The need for assembling plants for the proper handling of such crops as beans, broom corn, kafir, milo and wheat has been realized for some time by the county farm bureaus over the state.

The farmers in Quay, Curry, De Baca, Roosevelt and Torrance counties particularly, are giving this important matter special attention at this time.

The plan of organizing is comparatively simple. The big thing back of such enterprises is to get the people of a community to work together for their common good. So often while people realize the need and great value of such a proposition, they will discourage it because of personal grievances against some one or more persons within the community.

The principal features of cooperative warehouse associations are, the purposes of such an association, the means of financing the building and equipping of the warehouse, and how the member is tied up to the concern.

### Purposes of Warehouse Associations.

The objects of such associations, as set forth in the by-laws, "shall be to encourage better and more economical methods of production; to provide the facilities and agencies thru which the ................................(commodity or crop) of its members may be graded, baled, packed, advertised, marketed and distributed upon a uniform plan and in such manner as to bring about a standard of quality and wider and more uniform distribution......................; to buy and manufacture supplies in a cooperative way; to rent, buy, build, own, sell and control such buildings and other real and personal property as may be needed in the conduct of its business, etc. * * *"

By means of cooperative warehouses, farmers living from five to thirty miles off the railroad and having but a small quantity of broom corn or some other crop, can bring their product and have it cleaned, graded and stored and finally sold in carlot shipments when the market is satisfactory. The one great drawback to the best disposal of a crop is the fact that it cannot be procured in large enough amounts for the buyer. At the present time the broom-corn buyer travels miles and miles thru the broom-corn sections to buy up a carload of brush. In that carload there will be all sorts and kinds. The warehouse will do away with all of this and the buyer can go direct to a warehouse and buy as much as he chooses and of the kind and quality as well.

### How Money Is Raised to Build Warehouses.

The grower is interested primarily in the manner of raising funds with which to build and equip the warehouse. In the first place the individual pays a membership fee, ranging anywhere from $5 to $25 or more, as they determine upon at the time of organization. In addition to this, however, there is a provision in the bylaws by which the association is enabled to raise money for building, equipping or operating the business of the concern. This is known as "Emergency Capital" which provides that:

"Sec. 1. At the time of uniting with the association, or any time thereafter, when called upon by the board of directors, each member shall give a negotiable promissory note, payable on demand to the order of the association. Such note shall be for the sum of........ ...............dollars and additional............... .......... dollars for each acre of crops farmed by the member, the products of which are to be marketed thru the association. But in no case shall this note be for a less sum than...................... dollars.

"Sec. 2. These notes shall be the property of the association for the purpose of being pledged by the board of directors as collateral security for any loan that may be necessary in the conduct of the association's business. Any member's note may also be available in the settlement of any liquidated damages that may result from the failure of said member to live up to his contract with the association."

### Binding Upon Each Member by Contract.

In these warehouse associations strict regulations governing the grading and handling of a commodity are enforced. Each member enters into an agreement or contract with the association, appointing it as his sales agent, thus binding himself to deliver his produce to the warehouse, according to such contract. In this way the association knows very closely what it will have to market and the individual member cannot dispose of his stuff at an increased price to competitors who offer them with a view to disrupting the organization.

J. W. KNORR.

The women of Bernalillo county are making their own hats and dyeing materials to be used in the spring sewing for the family.

The women of the Farm Burean in Union county have been working for the past two seasons on beautifying their home suroundings by planting flowers, trees and shrubs and fruits. A little over a year ago there were no roses in Union county. Now there are at least twenty-five hundred. There is nothing that gives a place such an attractive homey-look as well placed flowers and vines.

The women of some communities in Colfax county are becoming interested in the pressure cooker as a labor saving device. As a result of one demonstration five women have purchased this economical labor saver.

# BOYS *and* GIRLS' CLUBS

## MR. CONWAY IS LEAVING

After nine years of faithful service with the Extension service of the State College, Mr. Conway is leaving New Mexico. Mr. Conway is a pioneer in Extension work. He came to New Mexico in August 1911, was Superintendent of Extension and Assistant in Agronomy from 1911 to 1914 and during this time he secured the running of two demonstration trains, one over the Santa Fe, and one over the E. P. & S. W. Thru Mr. Conway's efforts, the first Farmer's Week was held at the College January 1912. He started, named and edited for sometime the College Courier, organized the first Boys' and Girls' Clubs in 1912, held the first state club exhibit in Albuquerque, and has conducted three state club camps. He became State Club Leader, December, 1914, just after present Extension Service was organized under Smith Lever Act, and has been connected with club work ever since.

Mr. Conway, for personal reasons, is returning to private life, and will make his home in Muskogee, Oklahoma. The Extension Department wishes success and happiness for Mr. and Mrs. Conway.

## "ADIOS"

Having met personally a large number of New Mexico people during the past nine years, with whom I have formed pleasant acquaintances, I take this opportunity of expressing my appreciation for their friendships and saying, "Adios."

My young friends, the boys and girls in the club work over the state, I trust you will remember the good that has grown out of our associations and forgive the mistakes we have made. I am sure my whole and only purpose has been to do you good. If you stay with the club work and be loyal to your leaders, to your homes, to our flag and to our "fathers' God," you will surely succeed. A high ideal, a firm purpose, a mind to work, a cheerful spirit and a grip on God, will make a man of any boy; a woman of any girl. You could wish for no better commendation than have it said, "He is every inch a man;" "a true, wholehearted woman!"

My friends—the club leaders over the state—you are doing a noble work. "Carry on." I shall miss your kind words and your hearty handgrasps.

When the world goes wrong
Just strike up a song
  And you'll think of a new way to right it;
Difficulty may come
But will be on the bum
  If you brace up, face it and fight it.
In the morning you'll sow,
By noon it will grow,
  At even the harvest will be
In kind like the seed,
Be it of grain or of weed,
  As sure as you live you shall see.
Then I would say,
"Build not for a day,
  Not even for a year or a score,
But build for the ages,
As did the great sages,
  Who built for love and for lore.
  "Adios,"

W. T. CONWAY.

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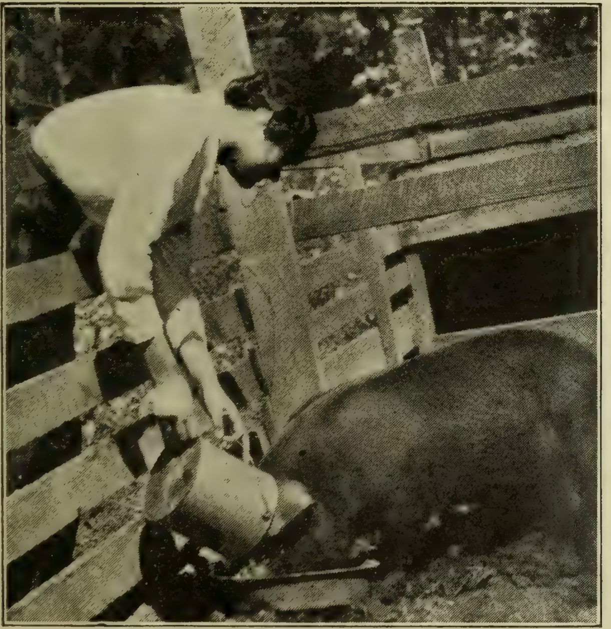
# THE NEW MEXICO FARM COURIER

Vol. VIII. JUNE, 1920. No. 6.



GIRLS CAN RAISE PIGS AS WELL AS BOYS

Published Monthly by the Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M., and United States Department of Agriculture, Cooperating.

# THE NEW MEXICO FARM COURIER

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FABIAN GARCIA, Director of Experiment Station.
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## EDITORIALS

### HIGH WAGES AND THE FARMER

It does not appear that there will will be any great abundance of farm labor for some time to come. Manufacturers have not yet caught up on production and the high wages and shorter hours offered in cities have drawn many from the farm. It has been reported, that in Kansas alone, 20,000 men, mostly returned soldiers, have left the farm during the past two years. The labor situation does appear to be as serious in New Mexico as in many other states, but a shortage of farm labor is reported from many sections of the state. It can be expected that farm wages will continue to be high for some time to come, and where they are unreasonably so, it will be necessary for the farmers to get along with as little as possible, reducing the size of their business somewhat and making use of better equipment and horse labor so as to reduce the man labor cost as much as possible.

The farmer is at a disadvantage at this time because he does not know just what prices are going to do. The manufacturer and merchant usually have a comparatively quick turnover and are generally in a position to set the price on what they have to sell. The farmer, however, rarely turns his working capital more than once a year and it is left principally to others to set the price on what he sells. If there should be a general decline of prices during his period of production, he may find it necessary to sell his products below the cost of producing them.

If prices remain high, the farmer can well afford to continue to pay labor a wage considerably higher than that paid several years ago. In fact, taking it over a long period, it is to his advantage that farm wages are comparatively high. He usually works in the field side by side with the labor he hires, and a considerable part of his own income is due to his own labor. The going wage of farm labor, therefore, usually is a pretty good criterian of the income that he himself receives.

It is well for the city man to remember, however, that as long as he insists on higher wages and shorter hours, drawing the labor from the farms, the comparative price of farm products will not come down. An adjustment will continue to take place until the farmer receives an income comparable with equal ability and effort in the city. The farmer will continue to produce all he can with the labor he can afford to hire, but living conditions will not be made any easier for the city man by simply boosting wages and shortening hours. What we need is greater economy, and greater production all around.

## A GOOD LETTER-HEAD ADDS PRESTIGE

On our desk is a letter written by one of the progressive farmers of New Mexico. We have never been on his farm but know thru others that he is a successful and progressive farmer. But even tho we knew nothing of him, we would feel free to say that he was because his letter is written on an attractive letter-head that indicates as much.

His letter-head is simple but attractive. It plainly indicates that he is a breeder of certain breeds of livestock. The conclusion one draws unconscienously when picking up this letter is that he must be a breeder of considerable importance.

No farmer who intends to do business by correspondence can afford to be without a printed letter-head. It is legible, looks business-like, and gives both the farmer and his products added prestige in the eyes of those who read his letters. It is a cheap form of advertisement and also will give the farmer and his family added pride in their farm. This is especially true if the farm is given an attractive name. Almost every printshop is prepared to print several hundred of such letterheads for a few dollars and it pays well.

## KILL THE WEEDS

No large crop was ever produced on weedy soil. The reason is easily accounted for. The weeds and the crop one may desire to produce require the same moisture, plant food, air and sunlight. Whenever a weed is found to be growing it means that the crop will be reduced by just that much.

The best time to kill weeds is before the crop has been planted or at least before it is up sufficiently to prevent the use of large machinery. It is not usually possible to kill all of them at this time, however, so with row crops it can be done after the crop is up. In this case it should be done before the weeds get a good start. It is not only easier to do it then, but this get gets rid of them before they have done any material damage.

Several reasons are frequently given for cultivating crops; killing the weeds is no doubt the most important one. When one has so cultivated his soil as to eradicate all the weeds, he has done about all that needs to be done in the way of cultivation after the crop is up.

## THREE NEW CIRCULARS FOR DISTRIBUTION

The following three new circulars have recently been published and are now available for general distribution. All three were written by Miss Mary B. Richardson, home demonstration leader, of the Extension Service.

Circular 60. A Balanced Ration for the Family.

Circular 61. Hints on Home Nursing.

Circular 62. Cooking with Steam Pressure in the Home.

Any one desiring these circulars can secure same by calling on their county home demonstration agent, county agent or club leader, or by writing directly to the Extension Service, State College, New Mexico.

### COLLEGE CATALOG READY

The catalog of the New Mexico College of Agriculture and Mechanic Arts, for the year 1920-1921, has just been published. In addition to details regarding courses, expenses, etc., the catalog shows a number of illustrations of the buildings and campus.

This institution offers standard four-year college courses in Agriculture, Engineering, Home Economics, Vocational Education, and General Science, with shorter courses in Commerce and Auto Mechanics; and the expense of attendance is still quite low. The enrollment during the present year has been about 500, and a large number of young men and women have already signified their intention of attending the coming year. The fall term will begin September 13.

A copy of the catalog will be gladly sent to any one interested. Requests for same should be addressed to the President, State College, New Mexico.

# Loco Weed Disease

LOCO, meaning crazy in Spanish, is a condition that has been popularly applied in the West to a disease of horses, cattle and sheep which results from eating the loco weed.

The toxic character of this weed has not been doubted by the more up-to-date stockmen, altho there are some who will persist in talking about worms, gnats and flies being the cause. Of the three well known varieties of loco existing in New Mexico, the white causes more loss than either of the other two varieties. White loco may be found all over New Mexico. The purple or Texas loco covers a large area, while the blue loco or rattle weed covers the western half of the state. While all three varieties cause losses in livestock, the purple and blue varieties are more harmful to horses. Sheep become addicted to the use of this weed. The writer once saw a herd of 400 bucks with over 75 per cent. of them locoed. As sheep are generally in charge of a herder, they can to a large extent be prevented from eating the weed.

Locoed horses are dangerous and should not be put to use, unless the driver places little value on his life.

**Beef Cattle Can be Redeemed.**

Beef cattle if not too far gone can be taken up and fed and turned into beef. The writer has seen a number of instances where this has been practiced successfully. In years of plentiful rainfall in New Mexico it generally happens that there is a bountiful crop of loco the following spring, and if there is a short grass crop, and no other food is within reach livestck eat eagerly of whatever is green. If loco is abundant they become addicts and unless feed is given them or they are changed to other pastures they will become its victims.

**Treatment.**

Feed is the most important factor in getting results from loco disease. In handling range horses suffering from this malady great patience and care must be exercised if the best results are to be obtained.

Fowler's solution of arsenic in two dram doses night and morning, together with some good feed will give results. Strychnine can be given hypodermically in ⅛ grain doses night and morning for a week. In case of cattle this could be increased to ¼ grain for a like period, but a close watch should be kept on the animals.

**Eradicating Weed Most Effective.**

Loco eradication was undertaken on a large scale by Mr. Antiene Meloche at the T O ranch in Colfax county, where about 20,000 acres were cleared at a cost of something like 22 cents per acre. Mr. Meloche engaged the high school boys of Raton during the summer, furnishing them board and lodging and a certain sum for their work. All the plants were dug up, and a liberal supply of salt put where the plants were growing and I understand excellent results were obtained. There is no excuse for loco growing in small tracts (farms) for the small outlay per acre is repaid to the owner a hundred fold. In the early spring before farming operations commence, a survey could be made of the farm and the loco spots marked. Later these could be dug up, the growing places salted and the dried plants destroyed. If these suggestions were followed loco disease would in a large measure disappear from the farm.

E. P. JOHNSON.

# Summer Legumes Build Up The Soil

THE question of soil improvement is one that is confronting the farmer in this state at the present time. The majority of New Mexico soils in their virgin state, are reasonably productive, but there is no soil that cannot be exhausted if it is cropped continuously and nothing in the way of plant food, either in the form of green manures, barnyard manures, or commercial fertilizers, returned to the soil.

Whippoorwill Cowpeas Grown in Quay County.

**Cowpea Adopted to New Mexico.**

There are a number of crops that can be grown for green manuring purposes. Some of these can be planted in the fall, some in the spring, and still others in the summer. Heretofore, very few farmers have grown summer legumes to any extent, either for green manure or forage. The New Mexico Experiment Station has been doing some work with a number of the leguminous crops, such as cowpeas, soy beans and velvet beans. Thus far the results indicate that cowpeas are probably the best of the three mentioned crops for planting during the hot months of summer. They apparently thrive better during the extremely hot period than either the soy beans or velvet beans.

The native home of the cowpea is probably in Central Africa. They were introduced into this country as early as 1775 and have been grown almost altogether as forage or restorative crops, but in a few instances, particularly in the south, they are used as human food.

The cowpea is adapted to almost the same climate as corn but it is usually supposed to require a little more heat. The cowpea is not particular as to soil except that it be well drained. It does well on both sandy and heavy soils. It is injured by the slightest frost, both in the spring and fall.

### Varieties That May be Grown.

There are a number of varieties, but only a few are of any great importance. Probably more than half of the acreage of cowpeas in the United States is devoted to the Whippoorwill variety. The Iron is another sort that is gaining in importance in the southern states, owing to its immunity to rootknot and wilt. The New Era variety has a more bushy habit and matures much earlier than either the Iron or the Whippoorwill. The Clay, Red Ripper and Early Buff are also grown to a limited extent but are not as popular with the growers as the other varieties mentioned.

### Methods of Planting.

Cowpeas, when planted alone, can be sown broadcast, drilled or planted in broad rows to be cultivated. When sown broadcast, one or two bushels to an acre are planted. If drilled, five pecks to an acre is very satisfactory; while in three-foot rows, fifteen to twenty pounds are sufficient. Cowpeas should never be sown before the ground becomes well warmed and it is seldom advisable to plant before corn planting time. It will take at least ninety days to mature any of the cowpeas; so this should be taken into consideration when planting, so as not to delay seeding too late.

The soy bean is apparently more susceptible to disease and sun scald in this locality than cowpeas and for this reason is usually considered not so dependable.

RUPERT L. STEWART.

# Diseases That Reduce Cotton Yields

COTTON is subject to a number of quite destructive diseases. A few of the most common ones are discussed in the following paragraphs.

### Anthracnose.

Seedlings, stems of grown plants, leaves, and bolls are attacked by this fungus. Boll seedling infections are the most injurious ones. Minute, reddish spots appear upon the bolls; these rapidly increase in size, becoming black, slightly depressed, and bordered by a reddish border. These spots may coalesce and form large irregular areas. Bolls thus infected may never open. Thru the bolls the fungus may pass on to the seed and thus spread the disease. When the seedlings are attacked, they soon wilt and die.

There are no adequate methods of control. Clean seed selection, and the growing of such varieties as permit the access of light to bolls constitute the only methods of control.

### Root Rot.

This fungus is very destructive to cotton, and seems to be quite prevalent in Texas where it thrives on a great variety of plants. It attacks the roots of the cotton plants and destroys the finer rootlets, causing them to decay. There is little evidence of the trouble until the plant suddenly wilts and dries. This is more noticeable after the bolls begin to mature. When wilted plants are pulled out of the soil, the diseased roots break and remain in the ground, and the main roots show a dirty yellow or buff-colored discoloration due to the presence of the fungus.

The best control measures consist of a proper aeration of the soil, especially deep preparation and close cultivation. Fall plowing is advised. Rotation with grain crop is of special importance in the control of this trouble.

### Wilt.

The wilt disease of cotton is considered as one of the most destructive foes of this crop. It is distributed thruout the cotton growing sections of the United States. The fungus is normally present in the soil where it can live indefinitely until it comes in contact with cowpea, watermelon, or cotton plants. Then it becomes a dangerous parasite, attacks the plants, and brings about the wilt. Roots and stems may be invaded by the fungus. When the stems and the roots of diseased plants are cross sectioned, the wood will appear darkened as the result of the activity of the pathogen. The diseased plants remain small, sick looking, and gradually their leaves turn yellow, wilt, and the plant dies.

Cotton plants show a marked resistance to this disease. The Egyptian cottons are resistant, altho not wholly so, while sea island cotton is particularly susceptible. The most resistant of the upland cottons are certain strains of Jackson variety.

### Fusarium Wilt of Cotton.

During the summer months some apparently healthy cotton plants may suddenly wilt and die within a very short time. When such plants are pulled out, their root system will be found attacked and decayed by a fungus which can live in the soil indefinitely. The disease may spread very fast and form large patches of dead plants. No definite control method is known. It is best to grow the plants on high ridges, planting them as far apart from each other as possible.

LEON H. LEONIAN.

# Proper Care of Automobile Tires

MANY of us remember the old saying, "Seek and ye shall find; knock and it shall be opened unto you," but the most of us have "Eyes and see not". Every one who owns and operates a car is eager to learn all he can about the causes of numerous unnecessary knocks and noises that indicate trouble and which may easily be prevented by a "word to the wise." They have learned that neglect means nothing more or less than a large repair bill and considerable trouble.

On the other hand, how many of us are going on day by day, wasting unnecessary money thru the neglect of our tires? One has only to spend a few minutes at a filling station or public corner to count them by the dozens. At this day and age of high cost of tires, as well as other materials, it is of high importance to each and every one of us that we learn the causes of our unnecessary tire troubles and try to prevent them.

### Good Tires Need Attention.

First of all, we purchase good tires, yes, the best we can buy, put them on and forget all about them. Then some nice hot day, when we are forty miles from any place, we hear a noise like a shot gun. We perceive the idea all right and we proceed to say things about the manufacturer of that worthless tire and promise ourselves right then and there never to buy another one like it. Or, perhaps, we take it back to the dealer and ask for adjustment. And when we are told that we may have a new tire for perhaps half price, we nearly raise the roof; but few of us ever wonder that was the exact cause in the first place.

### Don't Neglect Small Cuts.

It is true that "life is too short to worry about old tires," after they are really old, but many tires blow out before they have run half their possible mileage, thru nothing but neglect. You may ask why. I will tell you. That small cut that your tire received going over some rough road last fall, was neglected. What was the result? It rapidly grew larger and larger, and the sand worked under the outer layer, or tread, causing a tire "boil". The rain caused muddy, sloppy roads, which furnished ample moisture to this sand boil to rot the layers of fabric; consequently your tire blew out at that place one nice warm day, after several miles of hard driving.

### Maintain Proper Air Pressure.

There is still another cause that added materially to the rapidity of this destruction and which shortened the life of the tire proportionately. When you put that new tire on, you remembered something about keeping the proper air pressure in it, but this you soon forgot. You only put air in it when you noticed that it was partially flat. It was still partially flat that hot day when you had to change that tire, and it was this condition that hastened the downfall.

The serious results of under-inflated tires are not hard to understand, after you have experienced them, and really diagnosed the case. First, the tire, when put on new, was kept up to standard pressure for a while; but when the tire was allowed to be used under-inflated, the weight of the car on the fabric walls caused a bending effect all around the tire as it rolled along. The walls, which consist of several layers of closely interwoven fabric, thru this bending become weakened and also tend to generate heat, which naturally increases the air pressure to such an extent that the weakened place under that old tire boil what we thought nothing of, immediately gave way.

These are two of the most common causes of short mileage from good tires, altho there are several others which I will not attempt to explain, and which are perhaps not so much subject to neglect and carelessness, nail holes and rim cuts being the nearest relatives.

**Small Cut Easily Fixed.**

Now you wonder what I have been driving at. Simply this: if you get a small cut in your tire, fix it "right now." Don't wait. "He who hesitates is lost". By the use of some gasoline for cleaning and a self curing rubber gum, you can do it in ten minutes. On the other hand, neglect means one of those tire boils, which also means that it is too late. The other point is proper inflation of tires which should be attended to at least once a week, thus preventing the unnecessary destruction of the tire walls.

**How a Neglected Tire Cut Grows.**

E. R. POWERS.

# Growing Asparagus

THE asparagus crop has been harvested and the plants should now be left to grow for the remainder of the summer in order that they may store up food in the roots for next season's growth.

Aparagus is a very old plant; a native of Europe, and Asia, and has been cultivated for two thousand years or more. It forms an excellent spring relish, and is valuable both for its food and medicinal qualities. Every farmer should have his own family asparagus bed, and many others can make a handsome little income from asparagus if handled on a commercial basis. The cost of setting and caring for an acre of asparagus for the first year is approximately $200.00. The returns from an acre after the third year should be from $600.00 to $700.00, providing the crop is properly handled and marketed. An asparagus plantation should improve with age up to about twelve years, after which it deteriorates gradually.

### Starting the Asparagus Plants.

Asparagus roots for setting the permanent bed may be grown from seed or they may be purchased from a nursery. To grow one's own supply for starting the plantation is ordinarily the safest and most economical plan. Sow the seed in spring in drills, twelve inches apart, in a well prepared seed-bed. Cover with about one-half inch of soil. Soon after the plants come up, thin to three inches apart. The following spring these plants may be set in the permanent bed. The male, or pollen bearing plants, are more vigorous and productive of good stocks than the female or seed bearing plants. However, it is very hard to distinguish one from the other at an early age unless they bloom.

### Making the Asparagus Bed.

If the plantation is to be small, the roots should be set at one side of the garden where they will interfere the least with the preparation for other crops. Almost any soil will produce good asparagus, but the best results for an early crop are obtained in a well enriched, deep sandy loam. Prepare the soil well by plowing in a liberal amount of rich, well rotted manure. Make furrows four to five feet apart and four to six inches deep. Set the plants, which are one or two years old, eighteen to twenty-four inches apart in the bottom of the furrow, carefully spreading the roots. Cover the plants with about two inches of soil, and as the plants come thru the soil, gradually fill in the furrows, and then ridge a little, making the asparagus grow on a flat ridge approximately two feet wide with an irrigation furrow between the rows.

### Cutting the Crop.

The asparagus shoots may be cut a little the second season after setting the plants. The cutting season should not last longer than three weeks for the first two years, and not longer than five weeks for the following years, otherwise the plants may be impaired. When a good ridge system is used the lower portion of the shoots will be free from coloring matter, and tender; and should be cut several inches below the surface of the ground. A special knife with a bent handle and concave blade is used for this purpose. After the cutting season, the plants should be allowed to grow in order that they may store up food in their roots for the next season's growth.

### Fertilizing the Bed.

A top-dressing of manure should be applied every year to insure a good crop. This may be applied in the fall, winter, or in the spring before the shoots begin to grow. The top-dressing should be thoroly disked into the soil. Disking will not hurt the plantation because the roots are five or six inches below the surface of the soil.

### Irrigation and Cultivation.

The asparagus plantation should be kept moist by irrigation during the winter, spring, and cutting season; but little irrigation is needed during the summer months. During the cutting season the crop should be irrigated every seven to ten days. Turn the water down every other furrow. Alternate furrows should be kept dry so that the crop may be cut without walking in the mud, and thereby puddling the soil. The next application of water should be made to the unirrigated furrows, and so on. It is a good plan to keep the plantation well cultivated.

### Grading, Packing, and Marketing.

Asparagus shoots for market should be seven to nine inches long. About three grades should be made; grades to depend on the diameter. After grading they should be washed, made up in one-half pound bundles, tied with string, raffia, or colored tape; and packed in a suitable box, or crate, for shipment. The device known as the asparagus trimmer is very useful for holding the shoots while tieing and for trimming the butts.

S. W. WENTWORTH.

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An important party in dairying is the housewife.

# Good Records Made by College Herd

ARCADY SEGIS BARBARA, a pure bred Holstein cow, owned by the New Mexico College of Agriculture and Mechanic Arts, has recently completed a year's record on Advanced Registry test, making 22,599.5 pounds of milk and 755.99 pounds of butter fat or 944.98 pounds of butter, 80 percent. fat, at the age of 7 years This makes her the champion cow of New Mexico from the standpoint of milk production and one of the highest, both in milk and butterfat, among cows owned by Agricultural Colleges.

Arcady Segis Barbara, the Cow That Produced 22,599 Pounds of Milk and 945 Pounds of Butter in One Year.

Her previous year's record under official test was 19056.1 pounds of milk and 640 pounds of butter fat. This makes a total for the past two years of 41655.6 pounds of milk and 1395.99 pounds of butter fat or more than 20 tons of milk and nearly 1½ tons of butter fat.

Barbara is a remarkable cow of strong constitution and a good feeder, the kind of cow necessary to produce large quantities of milk. She weighs in ordinary flesh about 1550 pounds.

Another execellent producer in the College herd is Mechthilde Lyons DeKol, who has completed a record as a junior three-year-old, of 14901.2 pounds of milk and 499.81 pounds of butter fat or 624.76 pounds of butter, 80 percent. fat, in one year. Mechthilde's weight is 1450 pounds.

The other mature Holstein cows in the College herd are Lulu Beechwood Hengerveld and Segis Spofford Pontiac, the former having a record of 13054 pounds of milk and 432.87 pounds of butter fat in one year as a senior 5 year old and the latter a record of 11220.6 pounds of milk and 392.86 pounds of butter fat in one year as junior four-year-old.

O. C. CUNNINGHAM.

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## DON'T NEGLECT TO REGISTER YOUR STOCK

Much pure bred stock is being sold to farmers now, at prices that are above the ordinary meat or market prices. The most of these are females, bred to a registered male. The young, consequently, are subject to registration.

After once getting the pure strain on the farm, there is often a slacking up in interest for the animal and the progeny are not registered. Why not register the best of the young animals and then a pure bred herd can easily be kept? Also a few sales may be made to a neighbor who has to ship in from a greater distance.

There is a satisfaction in selecting and breeding for better livestock that can not come from merely throwing feed over the fence to inferior grades. If a farmer believes in pure-bred stock to the extent that he will purchase registered animals, he should reserve enough enthusiasm to register their offspring.

J. L. LANTOW.

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Bees should never be fed anything but good granulated sugar or good honey which is known to be free from foulbrood germs.

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One thing a cow testing association enables a dairy man to do: To sell his cows to better advantage. Carefully kept records of good animals usually increase their selling price 20 to 25 percent.

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In mentioning the workers of the world, the American hen should not be forgotten. One estimate places her yearly product at 2,625,000 tons.

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Do you believe in better sires on the farm? If so, help to make the "Better sires in New Mexico" a success.

# Fertile Eggs a Perishable Crop

IT is a fact that about 17 eggs out of every hundred which are delivered to the country merchant are unfit for food. This loss falls directly upon the producer for the merchant expects the loss and therefore pays just that much less for the eggs. This loss can be avoided and in eliminating the cause of the loss a two-fold profit is realized. First, a better price for the eggs, and second, the saving of feed for the surplus cockerels which are on most farms. After the hatching season there is no legitimate reason for keeping male birds with the hens. It indicates rather a laxity in the management of the flock. It makes eggs perishable. It lessens profits. It increases expense.

### Germ Develops in Fertile Eggs.

A fertile egg when exposed to a temperature of 70° F. will start the germ into life within twenty-four hours. If this temperature is continued, the germ will continue to develop for a few days and then will die. This then is a rotten egg. It is not necessary for an egg to be in a temperature of 103° F. to begin to develop. Seventy degrees is enough to start it but it requires approximately 103° to continue the development to hatching time. This then is why summer temperature or any temperature of 70° or over will cause fertile eggs to rot. With the roosters removed from the hens there is no possibility of fertile eggs and therefore no possibility of rotten eggs. An infertile egg will not rot.

### Fresh Eggs Are Generally Sterile.

Bulletin No. 75 of the Storrs Experiment Station has this to say about the sterility of hens' eggs: "The contents of normal fresh eggs, are, as a rule, sterile. It is quite probable that an egg yolk may become invaded before it leaves the ovary; but this is an uncommon occurence except when the ovary is infected with the organism of bacillary white diarrhea. Little, if any, infection takes place in the oviduct while the white and shell are being deposited, on account of the protective action of the mucous lining and its secretions, and also the antiseptic and bactericidal action of the egg-white itself."

From the above it is readily gathered that nature provides protection against bacterial infection of the egg. Nature also provides for the reproduction of the species in the fertile eggs. Man can avoid the eggs being fertilized by removing the roosters from the flock. Nature will prevent the infertile eggs thus caused by man from spoiling.

Remove the male birds from the hens, provide clean nests, gather eggs at least once every day and market them at least once every week. This will increase the income from the farm flock and produce a more wholesome and better egg.

R. B. THOMPSON.

## REPORT OF EGG LAYING CONTEST FOR APRIL

During the sixth month of the contest all pens maintained their places except pen eight which dropped from ninth to last place. With half of the time of the contest gone the average individual production is 65.2 eggs per hen for the 50 hens in the contest, with the high production 108 and the low production 20. Four of the five hens in pen eleven lost time this month on account of broodiness. One hen in pen seven and two in pen twelve were also broody. The production for the month was 57.2 percent. or an increase of 10 percent. over the production for March.

| Pen. | Owner. | Pen Prod. for mo. | Pen Prod. to date. |
|---|---|---|---|
| 2 | Gentry Poultry Farm. | 81 | 395 |
| 7 | Julius A. Ferguson.. | 81 | 383 |
| 4 | G. G. Gilmore....... | 91 | 375 |
| 3 | G. Soulard Turner.... | 82 | 358 |
| 14 | Neil Saunders Wheeler | 87 | 326 |
| 1 | Henry Holland ....... | 97 | 314 |
| 11 | Harley Caldwell .... | 76 | 273 |
| 12 | Mrs. Sam Stovall.... | 84 | 249 |
| 13 | C. B. Allaire........ | 83 | 227 |
| 6 | K. Roehrs .......... | 55 | 202 |

### Highest Individual Production for April.

| Owner. | Hen No. | No. Eggs. |
|---|---|---|
| Henry Holland ......... | 651 | 24 |
| Neil Saunders Wheeler.... | 618 | 23 |
| G. Soulard Turner....... | 263 | 22 |
| Mrs. Sam Stovail......... | 606 | 22 |
| C. B. Allaire............. | 612 | 21 |
| G. G. Gilmore............ | 266 | 21 |
| G. Soulard Turner....... | 261 | 20 |
| Julius A. Ferguson....... | 283 | 20 |

### Highest Individual Production to Date.

| Owner. | Hen No. | No. Eggs. |
|---|---|---|
| Gentry Poultry Farm.... | 259 | 108 |
| Neil Saunders Wheeler... | 618 | 97 |
| G. G. Gilmore............ | 266 | 91 |
| Julius A. Ferguson...... | 283 | 91 |
| Julius A. Ferguson...... | 281 | 86 |
| Gentry Poultry Farm...... | 257 | 82 |

R. B. THOMPSON.

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Eggs should not be washed for it removes the gelatinous film of the shell that keeps out air and germs. If the nests are kept clean the egg will have little chance to become soiled.

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Keeping a machine or vehicle in good repair and well oiled not only increases its efficiency, but lessens the power required in using it.

# HOME ECONOMICS

## Canning Products For The Home

THERE has been no more urgent need for food economy than at the present time. Every family is seeking ways and means of cutting down the cost of living. The preservation of foods by canning is effective food thrift, for it enables a housewife to take advantage of the lower prices of summer; it does away with the cost of cold storage that is added to prices of foods purchased during the winter; it saves the excess of foodstuffs producted in the home garden.

The simplest and surest way of canning is by the One period Cold Pack Method, which insures good color, flavor and texture to the product. Time, labor, and fuel are saved because sterilization is completed in one period.

The most important steps in canning are blanching, cold dipping, packing in clean hot containers, adding hot liquid, partially sealing jars and placing at once in sterilizer. A poor product is nearly always due to carelessness.

### Blanching is Necessary for Vegetables.

Blanching is necessary for all vegetables and some fruits. It cleans the product, removes strong odors and flavors, starts the flow of coloring matter and reduces the bulk of greens and fruits. Place the vegetable or fruit in a wire basket, colander or cloth and plunge into boiling water. The time required for blanching varies with the product. Greens should not be blanched in water, but should be steamed in a colander set over hot water.

### Cold Dipping and Packing.

When blanching is complete, remove fruit or vegetables from hot water or steam and plunge at once into cold water. This cold dip hardens the pulp just under the skin so that products may be peeled easily. As products are blanched and cold dipped they must be packed at once into clean hot jars. Fill jars to within one-half inch of top. (When using corn, peas, lima beans, and squash fill to within 1 inch of top as these products swell during sterilization. Berries should be packed closely by pressing with a spoon, in order to insure a full jar after sterilizing.) One level teaspoon of salt should be added to each quart of vegetables and enough boiling water to cover them. Boiling syrup or water may be added to fruits. Place a new rubber on jar and loosely adjust the top. If a screw top is used, screw it tightly, then unscrew it about one round which makes it possible for the steam to escape. If a bail top is used, adjust the top bail but do not snap the lower bail in place. As soon as a jar is ready, sterilize it for the required time, then seal. When cool, jars should be washed, labelled and stored in a dry cool dark place.

### Using the Hot Water Bath.

When the hot water bath is used for sterilizing, let the water cover the jars at least one inch. Count the time when the water boils rapidly. At moderate altitudes good results may be obtained by increasing the time for sterilization 10 per cent. for every 500 feet over 1,000.

### Pressure Cooker is More Satisfactory.

The best results however are obtained by using a pressure cooker which produces a temperature of 250° F. at 15 pounds pressure, thus reducing time and fuel. To use a pressure cooker observe the following directions:

1. Have water in cooker up to false bottom.
2. Place jars on false bottom, put on cover and adjust clamps tightly.
3. Leave pet cock open until steam escapes, then close. When steam gauge registers required pressure begin counting time for sterilization.
4. When sterilization is complete allow pressure to drop to zero before attempting to open pet cock or to remove cover from cooker.
5. When gauge registers zero, open pet cock, remove cover, take out the jars and seal at once.

A brief time table for blanching and sterilizing some of the more common products, is given below.

### Time Table for Canning.

| | | Sterlizing. | | |
|---|---|---|---|---|
| | | Hot water bath | Pressure cooker | |
| | Blanching | | 5-10 lbs. | 10-15 lbs. |
| | Min. | Min. | Min. | Min. |
| Asparagus ..... | 12 | 120 | 60 | 40 |
| Beets ......... | 5 | 90 | 60 | 40 |
| Cauliflower ..... | 3 | 60 | 30 | 20 |
| Carrots ........ | 3-5 | 90 | 60 | 40 |
| Corn .......... | 7-10 | 180 | 90 | 60 |
| Peppers ....... | 5-10 | 120 | 60 | 40 |
| Peas .......... | 7-10 | 180 | 60 | 40 |
| Spring beans .. | 7-10 | 120 | 60 | 40 |
| Tomatoes ...... | 1-3 | 22 | 15 | 10 |
| Apricots ....... | 2 | 16 | 10 | .. |
| Cherries ....... | .. | 16 | 10 | .. |
| Pears ......... | 2 | 20 | 8 | .. |
| Peaches ....... | 1-3 | 16 | 10 | .. |
| Rhubarb ...... | .. | 20 | 15 | .. |
| Strawberries .... | .. | 16 | 10 | .. |

LUELLA MADSON.

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## DONA ANA COUNTY WOMEN ARE IMPROVING THEIR HOMES

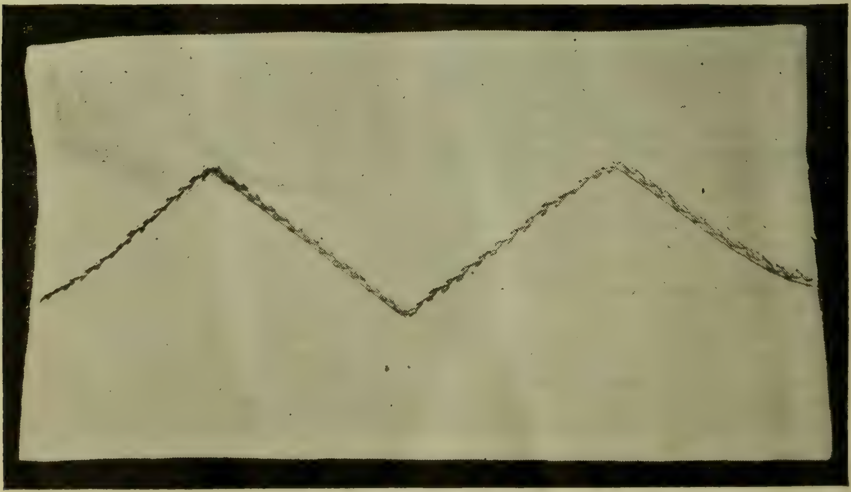
The women of four communities in Dona Ana county have taken up work on the project of household conveniences. The aim of their work is to make their homes more convenient in which to do work, thereby saving time, strength and labor. These women first found by careful study of their own homes the things which they thought would improve conditions, then they set to work on their problems. They called on their home demonstration agent, Mrs. VanVleck, to assist them in carrying out their plans. Four kitchens have been completely rearranged, whereby many steps are saved daily by the housewife in doing her work. Running water has been installed in two homes, one of which was equipped with a bath room. In one of these homes running water had been in the barn for two years but water for the house had been carried 100 feet. They have made kitchen cabinets and fireless cookers and find that they have derived so much help from the work that they are now trying to interest others to go and do likewise.

## CAN YOU BEAT IT?

Mrs. B. B. Ownby, wife of Lordsburg's mayor-elect, is the champion bean grower, man or woman, in the U. S. A. By giving one little plant, that came up as a volunteer on the Ownby ranch, proper care and by picking the beans as fast as they ripened, she gathered nearly a full quart of perfect pink beans. This from one plant, mind you, grown from one little New Mexico pink bean.

She counted over twenty-three hundred perfect beans, and has placed the can on exhibition in the office of the Lordsburg Liberal, to show people what can be raised in our wonderful soil, when water is properly applied.

Mrs. Ownby is something of a grape culturist as well, as a single bunch of her Tokay grapes weighed four pounds, lacking four ounces. — The Lordsburg Liberal.



A Shaped Hem With Fancy Stitching.

## SHAPED HEMS WITH FEATHERSTITCHING

Many times the housewife wishes a hem more ornamental than the ordinary hem and it is then that the thought of the shaped hem may come to her rescue. These may vary greatly. The lower edge of the garment is sometimes marked off in scallops or points. The facing is then basted to place and the stitching carried around the scallops, the edges trimmed and turned as in the plain facing. At the top of these hems may be worked featherstitching or fagotting; the lower edge may also have one of the ornamental stitches if desired. The accompanying illustration shows how this may be done.

MARYETTA WILSON.

# FARM BUREAU

## NEW MEXICO WOOL GROWERS TO POOL WOOL FOR MARKET

THE Wool Growers' Cooperative Marketing Association was organized when a group of leading wool growers from all parts of New Mexico met in Albuquerque recently.

Thus the old scheme of selling wool that has been followed in this state so long will be abandoned and the growers will pool their wool and sell it according to its grade and staple.

This development followed a series of wool grading demonstrations held in ten of the principal wool growing centers, by C. A. McNabb, marketing specialist of the Extension Service. Since the organization of this association a series of meetings have been held to familiarize growers with its plans and give all an opportunity to join. Local units will be organized in the various wool producing centers.

Already the association is meeting with splendid success, and wool growers are joining from all corners of the state. Itis safe to estimate at this time that fully one-third of the entire clip for 1920 will be handled thru this association. It is the plan eventually of the association to have its own warehouses within the state. However, for the first year arrangements have already been made with the National Warehouse and Storage Company of Chicago for that company to handle the wool. Arrangements were made on terms which should be attractive to all wool growers. Wool growers in a local unit of the association will ship their wool direct to the National Wool Warehouse and Storage Company at Chicago. At time of shipment the grower can draw on the above named company for fifty per cent. of the appraised value of the wool.

Upon arrival at the Chicago warehouse the wool is graded by expert graders. Each member is then notified thru the New Mexico Association just what his wool graded and the value of same on the Boston market at that time. The grower may then draw on the Chicago concern up to seventy-five per cent. of the value of his wool. The grower is charged at the rate of seven per cent. interest on the money advanced on his wool. The grower pays the freight also. The Chicago concern charges 2½ cents per pound on the wool as their commission. This charge covers storage, grading, handling, selling and insurance for a period of five months. After that time there is a charge of 20 cents per bag per month until the wool is sold.

The National Wool Warehouse and Storage Company is a concern highly recommended. It is absolutely reliable. It is capitalized at a half million dollars and has a borrowing capacity of more than five million dollars. It is strictly a commission firm and does not buy a single pound of wool. Sixty per cent. of the concern is owned by sheepmen of Wyoming, Montana, Utah, and Idaho. Its warehouses are United States bonded, making each grower safe and secure on every pound of wool received in it.

John Holliday, secretary of this concern, was at the Albuquerque meeting in April when arrangements were made to handle the wool of the New Mexico Association.

W. A. Spence of Carrizozo is temporary president of the Wool Growers' Cooperative Marketing Association. O. E. Troy of Raton is the vice-president. Jose A. Baca of Pendaries is acting secretary-treasurer. The board of directors of this association will be composed of seven members. Thomas Goulding of Aztec, and Eugenio Perez of Vaughn, together with the officers, make five members while the other two will be chosen at a later date.

Membership in the association is $15.00 and limited to growers only. Further information will be furnished to interested growers by any of the above named directors or county agents, or C. A. McNabb, State College, N. M.

J. W. KNORR.

# The Aim and Value of Boys' and Girls' Club Work

**By E. T. MEREDITH, Secretary of Agriculture.**

Boys' and Girls' Club Work is one of the important features of the Agricultural Extension Work conducted by the States Relations Service, United States Department of Agriculture, in cooperation with the State Agricultural Colleges and local agencies for the purpose of improving agricultural conditions and practices thruout the country. These clubs are organized to improve farm and home practices by instructing the boys in correct agricultural methods and the girls in home making; to assist them in demonstrating these methods for the improvement of the farm and home; to aid in the development of cooperation in the family and in the community; to create a more favorable attitude toward the business of farming and home making by encouraging property ownership and the feeling of partnership; and to make rural life more attractive by providing organization which tends to diminish isolation and develop leadership.

These objects are in process of attainment. Wherever Club Work has been pushed by our agents, larger yields have been obtained, better pigs have been raised and finer cattle, both dairy and beef, have been grown. The motto of the clubs is "To Make the Best Better". Registered animals are now common where only a few years ago they were unknown, and there is a systematic effort to cull out scrub livestock and poultry. Large yields of crops have been made by club members on lands which were considered worthless, and little girls are vying with the best packers in canning and preserving fruits and vegetables, and are becoming a potent factor in helping to make the farm home more attractive and enjoyable.

The average yield per acre made by club members in the growing of field crops is two to three times as large as the average yields made in the states in which the members are located. Many people, seeing a boy or girl here and there engaged in club work, do not realize the value of the products produced by these young folks in the aggregate. In 1918, while under the stress of war and responding to an appeal made to club members in the furrows "over here" to help feed the boys in the trenches "over there", the records in the office show that these young people produced food and feed to the value of more than $20,000,000.

The money value of the products of club members is only a small part of the value of club work. Many boys and girls have had their vision of life enlarged by club membership. Many have taken and are taking college training. The Agricultural Colleges of the country especially have profited in enrollment from the clubs. Many boys and girls have made their own money to defray their college expenses in club activities. Many after graduation have returned to the farms or have engaged in Extension Work as county agents. Rural life has been greatly enriched in recent years by the trained leadership obtained from agricultural clubs. The results obtained in this work justify many times the expenditures made in securing them and appeal strongly for a larger development of this very useful work.

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Some of the women of Dona Ana County Farm Bureau have taken up the poultry project. Prof. Thompson, poultry specialist, is giving a course of ten lectures on Practical Ranch Poultry Keeping. The women are rearranging their own chicken houses and culling their flocks with the idea of marketing chickens and eggs.

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It isn't keeping household records that counts—it's reviewing these records to see what they mean. They should help you to know if your family's needs are being met, if you are paying fair prices, if you are saving something for a rainy day.

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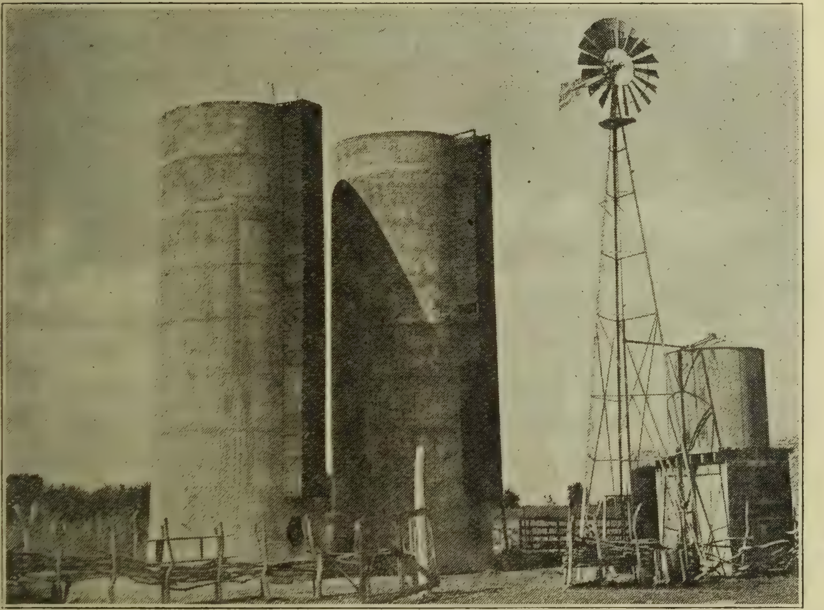
# THE NEW MEXICO FARM COURIER

Vol. VIII. JULY, 1920. No. 7.



MONUMENTS OF PROGRESS

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# THE NEW MEXICO FARM COURIER

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## EDITORIALS

### FARMERS NOT ON EIGHT HOUR SCHEDULE.

In a survey made by the U. S. Department of Agriculture of 600 farms in central Illinois to determine the standard day's work, among other things, the following facts were brought out:

"The average time spent in the field exclusive of the time used in going to and returning from the field, at morning, noon and night, is reported by these men as 10 hours and 10 minutes per day devoted to spring field work and corn cultivation; 9 hours and 55 minutes for fall plowing and preparing ground; and 9 hours and 20 minutes for corn harvesting." When we add to this the time spent in milking the cows, taking care of the horses and other livestock and doing the other chores, we have a day considerable longer than that usually considered a day's work in the city.

Most farmers are working for themselves and are not thinking in terms of shorter hours. Their object in working is to get the work done and not to put in a certain amount of time. They are interested in their work and during the critical periods of the year may be sorry that the day can not be stretched out a little longer even after putting in a hard day.

With the hired labor, however, it is different. They read about the eight hour day in the cities and it sounds alluring. Unless they intend to begin soon to farm for themselves the shorter hours along with the high wages and other attractions soon draws them to the cities.

The attractions of the city are no doubt often over emphasized, but life on the farm can generally be made more attractive than it is. More attractive living conditions, reasonable wages and hours of labor and ease in progressing from a farm hand to a farm operator are some of the essentials of maintaining a satisfactory supply of farm labor. The most efficient farm labor is composed of those young men who are using it as a stepping stone to begin farming for themselves.

## THE SILO IS WINNING ITS WAY.

The time is not far off when the livestock farm without a silo will be the exception and not the rule. Some are already dreaming of the time when there will be a silo on every farm. Yet the majority of those now farming can easily remember the time when a silo was unknown to them.

The rapid growth of the silo is not due to any fad or fancy. It is winning its way by pure merit. It is one of the most convenient and economical ways to store feed, and saves much of the feed that would otherwise be wasted and puts it into the best possible condition for feeding purposes.

In the dry farming sections of this state, it is one of the best methods of storing feed during years of abundance for the lean years. It makes it possibe not only to have a succulent palatable feed during the winter months, but also during years of complete crop failure.

Experiments conducted with silage feeding are practically unanimous in giving a high value to silage as a feed for sheep and for cattle, either for beef or milk production. But the best advertisement for the silos are the owners who are using them. If in doubt as to the value of a silo it might be well to visit some neighbors who have a silo and ask them what they think about it.

This issue of the Farm Courier contains a short article on types and the construction of silos. Those who are interested in buiding a silo should read this carefully and also write to the Agricultural College or ask their county agent for further information.

## PRICE OF HOGS AND CORN.

As this is being written corn is selling on the Chicago market around $2.00 per bushel and hogs are selling on the same market for less than $15.00 per hundred. Considering the ratio of 13 to 1 that was at one time established during the war, this seems considerably out of proportion. If this ratio were in effect with two dollar corn, hogs would be selling for $26.00. A 13 to 1 ratio is somewhat favorable to hogs, however, as it was intended that it should stimulate hog production, but with prices as they now are, feeders of livestock are having a hard time of it.

That a reaction is taking place is indicated by a reduction in the United States of 9.9 percent in the number of breeding sows during the year ending April 1, 1920. This decline will no doubt continue if present tendencies of price relationships do not change. It is also possible that the reaction will go too far and that this period of livestock price depression will be followed by a period of relatively high prices. For those who have established a type of livestock farming that they consider most profitable in the long run, it would probably be best not to make any radical changes even if it is desirable to reduce the livestock end of the business somewhat.

New Mexico hog raisers seem of the opinion that there are better times ahead, for while breeding sows in the United States declined nearly 10 percent, in New Mexico they increased 5 percent. There is often considerable truth in the statement that a good time to get in is when the other fellow is getting out.

## TWO NEW BULLETINS FOR DISTRIBUTION.

Two new Experiment Station bulletins have recently been received from the printers and are now ready for distribution. Bulletin 122, "Dairy Cow Feeding Experiments," gives the results of some feeding experiments conducted at the College to compare corn silage with alfalfa hay and dried beet pulp when feeding for milk production. Bulletin 123, "Soil Moisture Movement in Relation to Growth of Alfalfa," gives the results of applying different quantities of water to alfalfa on mesa soils. Both of these bulletins are free for general distribution and may be had by writing the Experiment Station, State College, New Mexico.

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### COWS AND HEIFERS FOR SALE.

The Agricultural College offers a few bred Hereford and Shorthorn cows and heifers for sale at reasonable prices. All registered. Address Animal Husbandry Department, State College, New Mexico.

# Gains In Live Weight Not a True Measure of The Utilization of Feed

FROM the results of a large number of feeding experiments, we have been taught that young animals make greater gains in live weight per unit of feed consumed and at a smaller cost per unit of gain than older animals. This has left the impression among students and stockmen that young animals have a greater intrinsic power for utilizing feed. But gains in live weight and feed required for a unit of gain do not take into consideration the difference in composition of the finished product.

Young animals have a remarkable power of storing up protein in the tissues of the body and the increase in weight of young animals consists largely of protein tissue with its accompanying large amount of water and relatively low energy value. The gains of live weight of mature animals, on the other hand consists largely of fatty tissues with its relatively low water content and high energy value, so that a unit of gain made by mature animals represents several times as much energy as an equal gain made by young animals.

In experiments on the utilization of feed by range steers of different ages conducted by the New Mexico Agricultural Experiment Station, in which 70 steers were fed, it was found that, averaging the results on four different rations, calves stored 70 per cent. less energy for a unit of gain than yearling steers; 94 per cent. less than two-year-old steers, and 109 per cent. less than three-year-old steers. Obviously then, a unit of gain made by the different ages of steers must require very different amounts of feed.

In the experiments mentioned above, it was found that yearling steers required 26 per cent. more feed to produce a pound of gain than calves, and two-year-old, and three-year-old steers, 55 per cent. and 128 per cent. more feed respectively than the calves.

The true measure of the utilization of feed is more nearly represented by the percentage of net energy of the feed stored as potential energy in the body tissues. On making these calculations, it was found that on the average, the steers of different ages stored approximately the same percentage of the net energy of their respective rations, the advantage being slightly with the yearlings and two-year-olds. There appears to be a direct relation between the capacity of the animals, i. e., the amount of feed consumed, and the percentage of energy of the ration stored as potential energy in the body tissues. The greater the capacity of the animals, the more efficient they appear to be in utilizing energy.

J. D. HUNGERFORD.

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### PURE BRED SIRES.

The pure bred sire movement has swept the country to such an extent that it did not stop at community dairy bulls or community stallions but extended over the large farms and cattle ranches. This movement was helped to a great extent by publicity, but this was not the chief cause for such universal adoption.

The high prices being paid for pedigreed stock induced the small breeder to buy a few registered animals and then turn his surplus stock at a higher figure. The rancher was not long in finding out that on the cattle market, steers of uniform run and showing true beef type comformation, were the ones that were looked for to take out as stockers and feeders. The grading of cattle with the corresponding range in prices induces one to breed up his cattle for the greater net returns.

One other force for the better sire movement is the pride or greater satisfaction the owner has in improving his stock. There is not a stockman worthy of the name but who enjoys showing his stock and especially if he knows he is making improvement.

The greatest factor in pure bred topping stock is that it insures greater returns. This has been proven in the poutry, swine, dairying and beef cattle industries.

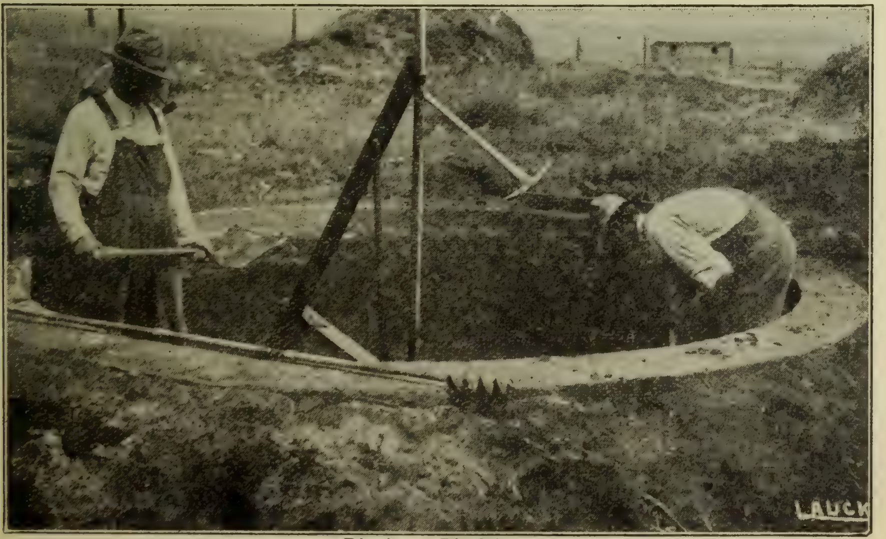
J. L. LANTOW.

# Types of Silos and Their Construction

THE TYPE of silo to build will depend on the locality and its proximity to the various materials. There are many kinds of upright silos that are giving good satisfaction and the pit silo has been one of the most popular types in the dry farming sections of New Mexico. But whatever the type selected there are some essentials in silo construction that should be observed.

### Walls Should be Smooth.

The walls should be absolutely smooth and plumb to insure thoro packing. Round walls are more satisfactory than square or octagonal ones because in the latter air spaces are found in the corners where the silage does not pack well. Also round walls will stand more lateral strain than any other shape. The walls of upright silos may extend four or five feet into the ground but if they go deeper than this there is great difficulty in getting the last of the silage out. As soon as they are up, the in-



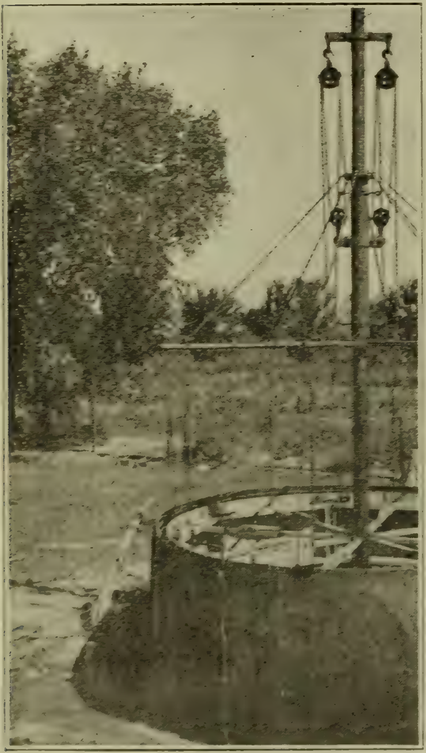
Digging a Pit Silo.

side should be painted with a coating of cement plaster or coal tar, thinned with gasoline.

A roof adds to the looks of the silo and in some ways is a convenience, but in no sense is it a necessity.

### The Foundation Should be Well Made.

The foundation for all upright silos should be deep, ranging from two to four feet, depending on the nature of the soil and varying in width from one foot in solid soil to three feet in sandy or loose soil. It should be of concrete and well reinforced. A floor is not necessary but in case one is used, it should be of concrete and have a drain at the bottom to carry off any surplus accumulation of water.



Form in Place for Building a Concrete Silo.

### Location of Silo.

The location is of prime importance. It shoud be built in a place convenient both to putting in the feed and taking it out. The most satisfactory location is usually just outside the barns and, in case of the upright silo, with the doors opening on the barn side into an alley way wide enough in which to conveniently push the feed cart or trolley. In a dairy barn, this alley may be separated from the barn by a door which is kept closed except during feeding time in order to keep out the silage odor. The approach to the silo should be convenient for wagons to unload and get away, thus preventing the common, unnecessary delays at filling time.

### How Large Should the Silo Be.

The size of a silo to build will depend on the number of stock to be fed. Ordinarily it does not pay to have a silo for less than ten head of stock. With a smaller number the investment is too great and the waste comparatively large, thus eliminating its advantages. The diameter should be such that at least two, and better still, three inches of silage are fed off the top each day. If this is done, the silage is always fresh and relished by the animals. If only a small amount is fed, it may become dry or mouldy as soon as it comes in contact with the air.

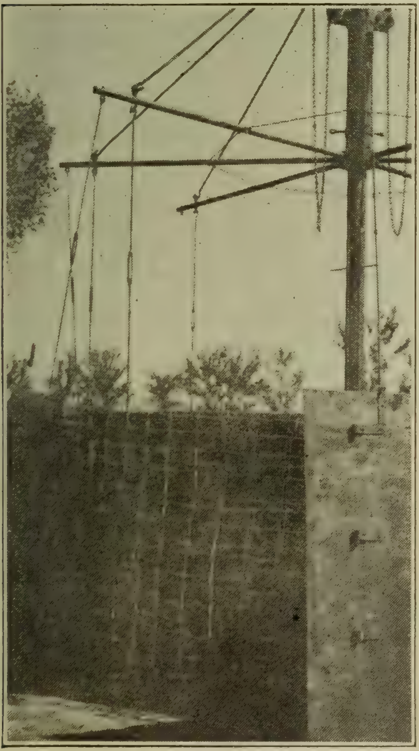
The height should be more than twice and less than three times the diameter, yet in no case should the height be less than twenty-five feet. In the shallow silo, silage will not pack well and air spaces are formed, causing rotten silage.

The following table will help determine the size silo to build:

| | | Number it will feed when feeding. | | | |
|---|---|---|---|---|---|
| Diameter feet. | 2 inches daily. | 40 pounds per head. | 30 pounds per head. | 20 pounds per head. | 15 pounds per head. |
| 10 | 534 lb. | 13 head | 17 head | 26 head | 35 head |
| 12 | 754 lb. | 19 head | 25 head | 37 head | 50 head |
| 15 | 1178 lb. | 29 head | 39 head | 59 head | 78 head |
| 20 | 2094 lb. | 52 head | 70 head | 104 head | 139 head |

In a thirty foot silo, 1 cubic foot of silage averages in weight about forty pounds. One twelve hundred pound cow will eat forty pounds of silage a day; one weighing nine hundred pounds, ten pounds less. Eight sheep are considered to equal one average cow.

The length of this article will not permit a detailed discussion of the construction of the different types of silos, but a brief statement will be made in regard to the advantages and construction of the following three general types.



Showing Method of Placing Reinforcement

### Pit Silo.

The pit silo has many advantages over other types. Some of these advantages are : the first cost is less; they are easily filled; the silage keeps well where the water table is low; they do not blow down and may be built at odd times. The pit silo is difficult to feed from unless built on a hillside and provided with doors. They have a tendency to cave in in certain soils unless heavily lined with cement, in which case the cost is materially increased, and the drainage is practically impossible.

### Stave Silo.

The life of the stave silo ranges from eight to ten years when well cared for and is reasonably cheap where materials are available. They may be quickly constructed. This reasonably short life, the necessity of painting the inside each season in our dry climate and the great care necessary to keep the hoops at the proper tension during all seasons, brings it much into disfavor in New Mexico, where the other types are practical. If stave silos are to be used, the lumber should be of the best, free from knots and match absolutely, forming an air tight receptacle.

### Concrete Silo.

The concrete silo withstands the most lateral strain, is the most durable, has little depreciation in value, increases materially the value of the farm on which it is placed and, where several farmers stand the cost of the forms together, it is only slightly more costly than the other types, provided good sand and gravel are reasonably easy to procure. In building concrete silos or heavily lined pit silos, metal forms made from eighteen gauge, galvanized iron in three foot widths or wider, are very satisfactory. Walls six inches thick, if well reinforced, will stand all the lateral strain necessary in the average silo. Twenty-six inch hog wire with number eight gauge stays makes the best reinforcing. This wire should be placed double near the bottom and tied all the way up. The mixture that has proven the most economical for the walls is: one part cement; three parts sand and six parts gravel. In getting the sand and gravel, great care should be exercised in securing clean material.

GEORGE R. QUESENBERRY.

# TOMATO CULTURE

TOMATOES, like sweet potatoes, melons, chile and cotton, belong to the warm season crops, and require a long growing season to produce the largest yields. The young plants may be started by planting the seed either in the coldframe or hotbed; or by planting the seed out in the field. To get early plants it is better to start them in the coldframe or hotbed early in the season. At the Experiment Station, as a rule, the coldframe seed bed is prepared about the 20th of January. When the seed is planted in the coldframe at this time, by the 15th of April the plants are from four to six inches high, which is large enough for transplanting. If the seed is going to be started in the field, it may be planted a week or two before the coldframe plants are ready for transplanting.

During backward springs the transplanting to the field, or the planting of the seed in the field, has to be delayed, naturally, depending on how late the season is.

### The Single Row Method of Planting.

There are two good ways of growing tomatoes, the single and double row methods. The former method is the more popular one, and consists in simply plowing out small ditches about five or six feet apart. The water is then run down them in order to settle the soil. As soon as the soil is dry enough so that it can be worked easily, without puddling, the little plants are transplanted four feet apart on one side of the little ditch. In case the seed is to be planted in the field it is planted in hills the same distance apart at the edge of the water mark on one side of the ditch. If the plants are transplanted they should be irrigated immediately, and must not be allowed to wilt. Within four to six days they should be irrigated again. Considerable care is necessary during the first two weeks to see that the soil does not get too dry around the plants. The third irrigation may be given from about ten to twelve days after the second. By this time the plants will be well established. If the seed is planted, the rows do not need to be irrigated immediately, but it is well to irrigate them by the time the seed is beginning to germinate, which may be from 10 to 15 days after planting. Care should be taken not to flood the seed any more than necessary. If this is done the ground will bake considerably and prevent the little plants from breaking thru the crust. An excellent way which is now being practiced at the Experiment Station in planting tomato seed in the field is the covering of the hills with sand. In this way even if the hills are flooded the little plants are able to break thru the sand. It does not take any more work to cover the seed with sand than it does to cover them with ordinary soil, especially if it happens to be adobe.

### The Double Row Method.

The double row method is very similar to the single row method, except that instead of having a small ditch, a four foot ditch is plowed, leaving a ridge in the middle so that later in the season this dirt can be plowed against the plants on each side of the row. The water is run down this ditch, and the seed, or plants are planted at the edge of the water mark four feet apart in the row. The distance between the middles is the same as for the single rows, which ought to be about six feet.

### Planting Seed in Field May Result in Poor Stand.

As a rule, the transplanted tomatoes begin to bear considerably earlier than the field planted, and everything considered, it is easier to get a stand with the plants, than it is when the seed is planted in the field. In many cases it is necessary to have to reseed a number of the hills once or even twice. The lack of a proper stand from the seed may be due to poor germination, caused from the soil crusting over the seed, or on account of the beetles and leaf hoppers eating the little plants as they break thru the soil; and sometimes the whole hill may be destroyed by field mice. The

Replanting Tomatoes on College Farm.

wind frequently kills many of the little plants as they come thru the soil. All of these are limiting factors in getting a good stand from the field seeded plants.

When transplanting two plants are planted in each hill. If the seed is used, as a rule, from ten to twenty seeds are planted to each hill. After the plants are from three to four inches high, the hills should be thinned to two plants.

### Irrigating.

The irrigation during the summer is done thru the ditches, care being taken that the water percolates well around the root zone. The frequency of the irrigations depends on the water holding capacity of the soil, and the seasonal conditions; but at the Station the practice has been to irrigate every fifteen days.

The cultivation consists in keeping the ground free from weeds, and in ridging the dirt towards the plants. After the plants begin to spread back on to the middles practically no cultivation is necessary, excepting the hoeing of weeds, particularly those inside the ditches, once in a while.

Tomatoes begin to bloom pretty early in the season, but, as a rule, the first blooms do not set any fruit, as for some unknown reason the first blooms fall off.

### Adobe Loam Soils Give Best Results.

While tomatoes seem to grow on all kinds of soil, the results at the Experiment Station indicate that adobe loam gives better satisfaction than either the sandy, sandy loam, or the extremely heavy adobe soils. It has been quite noticeable to find a larger percentage of blighted plants on the sandy and sandy loam than on the adobe loam. It has also been noted that the nematodes are more prevalent and injurious on these lighter soils than on the heavier soils.

The transplanted plants frequently

seem more susceptible to the blight than the field seeded plants. While this feature has not been thoroly investigated, it has been quite noticeable.

As a rule when tomatoes are planted in single rows four by six feet, there are about 1,820 hills to the acre. On the other hand when the double row method is used, there are about 2,200 hills to the acre.

The Earliana, and the A & M First Early have proven to be quite satisfactory for early tomatoes, the Bonnie Best and My Maryland are satisfactory medium late tomatoes, while the Stone is one of the best main crop tomatoes.

FABIAN GARCIA.

# Culling Demonstration for July, August and September, 1920

DURING the 1919 culling season there were fifty-five demonstrations conducted in thirteen counties of the state. From the fifty-five demonstrations there were received thirty-three complete reports which when summarized gives the information that there were before culling 2,650 hens in the 33 flocks which produced an average of 638 eggs per day for 7 days immediately before the demonstration. From these 2,650 hens there were 1,066 taken out as being poor producers and not worthy of keeping longer. This left 1,584 hens in the flocks. These 1,584 hens produced in 7 days following the culling an average of 583 eggs per day. This all means that by removing 1,066 hens from thirty-three flocks the egg production was decreased but 55 eggs per day.

These demonstrations are conducted on the farm of some person who has a flock of hens and who desires to have the non or poor producers removed. They are conducted for the benefit of all the people in the sourrounding community who desire to learn how, so that they may cull their own flock. There is no charge for the work as it is done by the Extension Division of the New Mexico College of Agriculture and Mechanic Arts under the supervision of the County Agricultural Agent. Demonstrations will be held this year in Bernalillo, Chaves, Colfax, Curry, De Baca, Dona Ana, Eddy, Grant, Luna, McKinley, Mora, Otero, Quay, San Juan, Torrance, Union and Valencia counties. For definite information regarding dates and places of demonstration make inquiry of the county agent who is located at the county seat in the counties mentioned above.

**Culling Demonstration, Showing Method of Culling Out Non-producing Hens.**

The system or knowledge which is used as a foundation for selecting the poor from the good producers is one which was created at Cornell University and has been elaborated on and substantiated by most of the experiment stations in the United States and Canada. The basis of selection is the pigmentation or coloring of the eye-ring, vent, ear lobe, beak, shank and skin; the condition of the feathers and stage of molt at the time demonstration is held; and the conformation of the body, carriage of body, texture of skin, wattles and comb are also taken into consideration.

Once the possibility of selection is demonstrated the matter of eliminating the non-producing hens from the flock is a matter of but a few minutes. It is not difficult to learn and make practical application of this principle of culling and by the results of the last year's work the saving in feed and increase in egg production makes it well worth while to learn.

R. B. THOMPSON.

# HOME ECONOMICS

## Cooling Food in Hot Weather

### Utilizing Cool Air

IN THE cooler seasons, window boxes form effective and convenient ways of keeping food cool. The most satisfactory kind fits the window ledge close up to the window. Any kind of box will do. It should be made dirt and fly proof, allow for ventilation and be easily reached from the inside by opening the window. A window on the north side of the house should be chosen.

If there is a cellar under the house it may be used for cooling food, provided it is kept clean, screened to keep out flies and ventilated by opening doors and windows at night after sundown and closing them again in the morning before the air is hot. A north room in the cellar with thick walls is good for storing foods. Such foods as milk and butter keep better if placed on the cellar bottom and carefully covered.

A shaft made of galvanized iron, cement or wood (where there is no danger of water in the ground), sunk into the ground 5 to 6 feet below the house, makes a good cooler. The shaft should be sealed at top and bottom so as to be proof against vermin and water. A door should be placed in the upper part of the shaft opening into the pantry or kitchen, so a set of shelves made so they can be raised and lowered with a rope and pulley can be easily reached. Food can be placed on these shelves and lowered to the bottom of the shaft where it will keep cool and be quickly brought up when wanted.

A dry cave in the side of a hill will maintain a fairly low temperature. It should be lined with cement, brick, or other dry, clean material. It should have a well fitted door, or better a double door and some means of ventilation should be provided.

A hole two or three feet deep may be dug on the north side of the house and a box fitted into it and a cover fitted to the box. Food can be placed in the box and covered, the box can then be covered with clean hay or straw up to the level of the ground. It will be all the better if the sod removed in digging the hole be placed over the hay. This and the hay can be easily removed and replaced when the food is needed.

### Cooling Food by Means of Water.

Food may be kept cool by placing the dish in cold water and changing the water as it becomes warm. In moderate weather, such foods as milk and butter can be kept well for a long time. This is a good way to cool foods hot from the fire before placing them in the ice box.

A cupboard with sides and ends made of screen wire, and covered with a heavy cloth which is kept wet by ends that dip into a pan of water sitting on the top of the cupboard, will keep food cool when it is placed on the shelves inside. The evaporating of the water lowers the temperature and keeps the food cool. The quicker it evaporates the lower the temperature. Directions for making this iceless refrigerator can be had by calling on your home demonstration agent, or writing to the Extension Service of the New Mexico State College.

Food can be kept cool by wrapping the dish in a wet cloth and as it dries out wetting again.

An unglazed earthen flower pot turned upside down in a dish of water makes a small iceless refrigerator when only small quanities of food are to be kept. A small bottle of milk may be kept sweet this way for a long time.

A house or box built over a spring or brook is another way of keeping foods cool.

Fireless cookers and vacuum jacketed bottles that are insulated so as to prevent ready change of temperature may be used to keep foods cold as well as hot. Chill the food well before putting it into such a container. A little ice put into the well of the fireless cooker helps to keep the food cool longer. If a little crushed ice is carefully placed in a vacuum or Thermos bottle so as not to crack the fragile lining, the food will keep cool longer.

### Economy in the Use of Ice.

Choose a well made ice box, as it uses less ice than a poor one. Keep it standing where the wind and sun will not strike it. The ice box should remain at a temperature of 50° F. or less. Test with a themometer.

Keep the compartment filled all the time. This is economy. Never cover the ice with blankets or newspaper as they prevent the ice from melting and make the chest less cool. Coverings are never desirable except some times on the side of the ice box where the door is opened.

Do not open the doors of the refrigerator unnecessarily for cold air rushes out and warm air enters. See that doors are tighty closed when not in use. Select thin dishes for use in the refrigerator as thick dishes take up and hold the heat. Enamel and glass are better than earthen year.

Never put warm food or dishes in the ice box. Keep the ice chest clean by at once wiping up anything that is spilled. When necessary wash it out using 2 tbsp. washing soda to each gallon of water used. Rinse and dry thoroly. Keep the drain pipe clean by pouring hot water thru it and scouring with a long handled brush.

MARY B. RICHARDSON.

## PRESERVATION OF EGGS.

There are many ways of preserving eggs such as packing in sawdust or oats and in water glass. The latter method is most successful and eggs may be kept in good condition for as long as a year. The best time to pack eggs is during the spring and early summer, for the quality is better and the production is greatest at that time. Summer eggs may be kept for a few months.

### Only Fresh Eggs Should be Used.

Be sure that eggs for packing are absolutely fresh. Test by placing in a dish of fresh water and if an egg floats or even tends to float, do not pack it. The shell of an egg has a gelatinous coating which should not be removed by washing before the eggs are packed.

### How to Use Water Glass.

Water glass may be purchased at any drug store in either powder or liquid form. If a powder is used, dissolve according to directions which accompany package. If the liquid form is used, mix 1 part of the solution with 9 to 11 parts of water and stir well. Pour the mixture into a clean stone jar and set in a cool place. Eggs may be packed all at a time or from day to day, care being taken not to disturb those previously placed in the jar.

The jars should be kept covered to prevent evaporation and the water glass should always cover the eggs at least three inches.

**Taking Eggs Out of Solution.**

When eggs are to be used, remove from liquid and wash with water to remove the water glass. Eggs should remain in good condition for at least ten days after removal from solution. If eggs are to be boiled, a small hole pricked thru the large end of the shell will prevent cracking. The pores of the shell have been closed by the water glass solution and the air within the shell expanding will cause it to crack unless this precaution is taken.

Eggs preserved by this method may be used for all cooking purposes.

LUELLA MADSON.

### SETTING COLORS IN COTTON MATERIALS

As the warm days come we heed the call of spring and turn our attention to light clothing.

What can we do to save the delicate colors of our gingham dresses? We must consider the color and the necessary treatment. It is best always to wash a small piece of the material first. Colored cotton materials should always be washed in salt water, one and one-half cupfuls of salt in four quarts of hot water, and then dried in the shade.

To set black, red and pink, always soak in a strong solution of salt water. For green, mauve and purple, use one gallon of water in which an ounce of alum has been dissolved. When desiring to set the colors blue, brown, tan and lavender, dissolve thoroly one ounce of sugar of lead in one gallon of water, and soak several hours before washing.

MARYETTA WILTON.

# FARM BUREAU

## "Who's Who" Among the Farm Bureau Presidents

### R. C. REID

**President of State Farm and Livestock Bureau.**

R. C. Reid has been president of the Chaves County Farm Bureau since last December and was elected the first president of the State Farm and Livestock Bureau in January. He has also been active as a community leader and has just completed one of the most important projects of the year.

Mr. Reid owns an irrigated farm of two hundred acres, practically all in alfalfa, which he has operated for the past ten years with the exception of the time he was engaged in war work. He runs a herd of cattle on the range during the summer months and brings them to the farm for the winter. This is one of the best farms in the Pecos valley and is always ready for inspection. Mr. Reid is a great lover of good horses, and tries to have the best.

Mr. Reid was born in Etna Green, Indiana, and came to New Mexico at the close of the Spanish-American war, in which he served. He opened a law office at Roswell and was commissioned by the A. T. & S. F. railway to acquire the right of way for the Belen cut-off. On the completion of this work, he sold the townsites along the new railroad, and bought the land, platted and sold the townsite of what is now the city Clovis.

When Governor Lindsey came into office, Mr. Reid was appointed his legal advisor, and also served as president of the State Tax Commission during this period. It was at this time that Mr. Reid uncovered the fraud in the state bond matters which resulted in the trial and conviction of the perpetrator. He resigned both of these positions to take up the work as the executive officer of the Selective Service law for New Mexico, and while so engaged, received the commission of captain. The efficient way in which he handled this work drew the statement from the provost marshal general's office that there was but one other Selective Service executive in all the country who had so fine a record.

R. C. Reid, President of the New Mexico Farm and Livestock Bureau.

### MRS. C. W. FISHERDICK

### Vice President of the State Farm Bureau.

Mrs. C. W. Fisherdick, La Plata, who was elected the first vice president of the State Farm and Livestock Bureau at its organization meeting last February, was born in Schuyler, Nebraska. She was educated at the University of Nebraska at Lincoln and after completing her school work, worked for some time at the State House. After her marriage she and her husband moved to Denver, where they lived until they moved to their present ranch at La Plata, New Mexico.

Neither of them had ever had any farm experience until they moved to New Mexico, altho Mr. Fisherdick was a graduate of the Massachusetts Agricultural College, and people made a good deal of sport of their methods during their first few months of farm experience. However, both Mr. and Mrs. Fisherdick were thrifty and careful. Mrs. Fisherdick ran a store and kept a few lambs while her husband looked after the ranch. Gradually the sheep business built up until they sold out the store and made the sheep business their main business. Now they have one of the best equipped sheep ranches in the west and have an Oxford flock of which anyone might be proud. Mrs. Fisherdick is the director of the livestock improvement work in the county farm bureau.

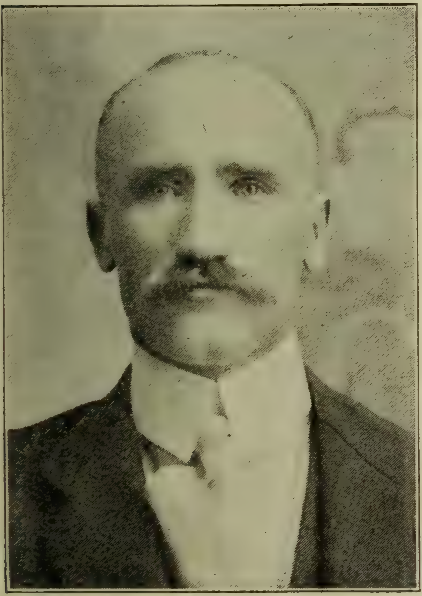
Mrs. Fisherdick, Vice-president of the State Bureau.

### HUGH RAMSEY

### of Luna County.

Mr. Hugh Ramsey, president of the Luna County Farm and Livestock Bureau, came from the state of Washington to New Mexico in 1897 and began farming in the Mimbres Valley in 1908.

Mr. Ramsey has been identified with every cooperative movement which tended toward the economic and social welfare of the farmer and the community. In 1913 he was one of the organizers of the Mimbres Valley Farmers' Association and has served on the board of directors five terms. He was one of the organizers of the rural telephone and for eight years has been manager of the same. In 1918 he helped to organize the farm bureau and became one of the executive committee. In December, 1919, he became president. On April 2, 1920, he was elected president of a newly-formed organization known as the Deming Co-operative Exchange which represents people in forty different occupations and professions. Its purpose is to develop the cooperative spirit between the producer and consumer for their mutual welfare.



**Hugh Ramsey, President of the Luna County Farm and Livestock Bureau.**

At present he is enaged mostly in stock raising.

### HAIL INSURANCE FOR THE FARMERS.

On May 12th the Forrest Mutual Hail Insurance Company of Forrest, N. M., met for the purpose of reconstructing their by-laws and for the election of officers and directors. The business of this association will extend over the wheat producing sections of Quay and Curry counties. Four directors were elected from Quay county and three from Curry county.

### BETTER DAIRY STOCK FOR CURRY COUNTY.

Six Holstein calves have been ordered for the boys and girls in the calf club of Curry county. This stock is to come from Wisconsin. One farmer in the Pleasant Hill community has purchased a high class purebred Jersey bull which is to be used in the community at a very low charge to the dairymen.

### VALENCIA COUNTY FARM BUREAU ORGANIZED.

The final organization meeting of the Valencia County Farm Bureau was held in Los Lunas on May 8. 131 members were secured as a result of a two weeks' campaign. Additional members are being secured.

### DAIRY STOCK FOR QUAY COUNTY

Mr. B. D. Gillette, project leader of the farm bureau on dairy improvement in the Nara Visa community made a trip to Arizona and returned with a car load of Holstein cows and calves, which have been distributed to the farmers in his home community.

### POOR PORKERS CAN'T COME BACK.

The Duroc swine growers of Curry county have recently organized the State Line Duroc Swine Breeders' Association and are planning to push the swine industry in that part of the country. One of the members has purchased a pure-bred male from Ohio at a cost of $2,500.

Have your name at the front gate so that the people will know who lives there.

# BOYS *and* GIRLS' CLUBS

## CLUB JUDGING TEAM TO GET TRIP TO LONDON, ENGLAND

The Southeastern Fair Association has made the following offer to club members of the entire world.

They are to hold this year, and each succeeding year at Atlanta, Georgia, an international club camp and livestock judging contest for boys' and girls' club teams, at which one team from each state in the Union will be eligible. Each team consists of three bona fide agricultural club members, who are under the supervision of the extension service of the state represented, in cooperation with the United States Department of Agriculture.

Twelve rings of livestock will be judged at this contest, made up of the following classes: Hereford cattle, Angus cattle, Shorthorn cattle, Jersey cattle, Holstein cattle, Guernsey cattle, Duroc-Jersey hogs, Poland China hogs, Berkshire hogs, Hampshire hogs, Southdown sheep, and Shropshire sheep. The winning team, the highest scoring contestant, the state club leader, represented by the winning team, the county agent, represented by the club member making highest score and the Washington office club official whose territory is represented by the winning team, will all receive a free trip to the Royal Livestock Show, London, England. In addition, there will be a gold medal awarded to each of the three making up the winning team and to the highest scoring contestant.

## A BIG NEED OF CANNING CLUBS.

The State Leader has just received the following word from the Washington office regarding the supply of jars and jar rings for canning for this season.

"Nearly all the packers are finding it difficult to secure labor and the cost of raw product indicates that there will be a great reduction in the amount of commercially canned food and the cost will be higher than in previous years.

"Last year there were canned in the homes 1,250,000,000 cans. This year the pack should be even greater. It has been learned from the manufacturers that the jobbers and retailers have not laid in a supply of rubber rings sufficient to meet the canning needs for the season. It may be well to advise you to secure your rubber rings in advance of the time when canning is to be done.

"It was found last year, that a number of the canning club girls could make a substantial profit by canning for the market. In some communities this might be advisable in New Mexico. If canned for market, the product should be packed in tin or glass and carefully standardized as to weight and quality."

## CHAMPION IN REMODELING GARMENT

Crystal Ellis was the girl who made the best garment from an old dress. Crystal made a good looking navy blue middy from an old flannel dress. This is the cost of the middy:

**Trimmings.**

| | |
|---|---|
| Four and one third yards white silk braid at 6c | $ .26 |
| Emblems | .25 |
| One white silk lace | .15 |
| Thread | .10 |
| Six and one-sixth hours labor at 15c | .93 |
| Total cost | $1.69 |

Crystal priced a new middy just like the one she made and found it cost $10.

The above statement of the work done in remodeling by Crystal Ellis, a Colorado girl, is very striking in that it shows just how the girls can help their mothers in their effort to conserve clothing during this time of high prices. It is such things as this that we want our Sewing Club Demonstration members to do. There are always many articles of old clothing that are discarded which could be made over into something useful.

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# THE NEW MEXICO FARM COURIER

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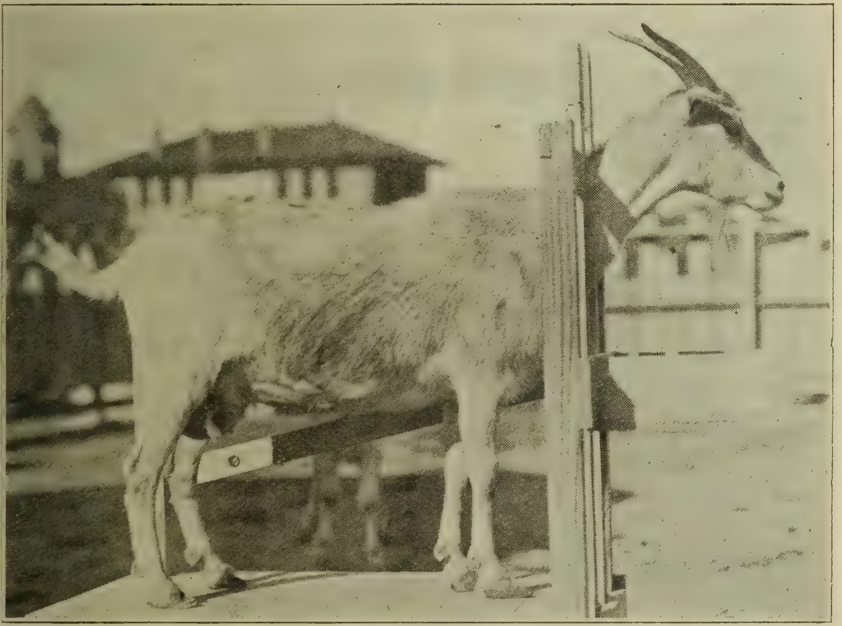

Native Nannie at College Gives Two Quarts Milk Daily. See Article on Page 4.

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# THE NEW MEXICO FARM COURIER

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FABIAN GARCIA, Director of Experiment Station.
C. F. MONROE, Director of Extension.

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Edna Hume Durand, Curry Co., Clovis.
Lu B. Hughes, Eddy Co., Carlsbad.
C. C. Head, Quay Co., Tucumcari.
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Melecio Trujillo, Valencia Co., Los Lunas.
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Ida B. Fuchs, Bernalillo Co., Albuquerque.
Leah Harris, Colfax Co., Raton.
Sarah Van Vleck, Dona Ana Co., Las Cruces.
Edith M. Hurley, Union Co., Clayton.

## EDITORIALS

### PRESERVING FOOD.

The housewife who is at this season preserving food for winter use by various means, is making use of a principle worked out in response to a military need. The wars of Napoleon during the latter part of the 18th century were responsible for the discovery of the process of sealing foods in order to preserve them for use of the army. M. Nichols Appert of Paris, a man who had the advantage of practical experience as a pickler, preserver, confectioner, brewer, distiller and chef, was encouraged to work out a system of food preservation by a prize offered by the French government. His method, which was awarded the prize, consisted of enclosing fruit after heating in a glass bottle which was then corked and subjected to the action of heat applied thru the means of boiling water. Later French scientists investigated the causes of the preservative action of heat and thoroly approved the system of M. Appert. While the apparatus used by the inventor of canning would look crude and bunglesome to the average housewife, yet the principle he used is the one employed in the canning of the great majority of food products canned in American houses.

Some process of food preservation would doubtless have been worked out before this time without the stimulating influence of military necessity, yet we must credit such necessity not only with the development of the process but, as in our last great war, with popularizing the practice to a remarkable degree. Without our present knowledge of food preserving processes, we would have a summer season of glutted markets, low prices or even no prices, followed by winters with food supplies practically unobtainable and want and actual starvation facing our people.

The housewife who preserves only a dozen quarts of food for later use not only benefits her household directly but in a small measure aids in preserving an equilibrium between food supply and demand. High priced sugar will doubtless curtail the canning of fruits this year. Then let us substitute drying methods and use the containers for vegetables and meats which require less costly preparation for preserving.

### CARE IN FILLING SILOS.

The man who has constructed one or more silos, raised the crop to fill them at considerable expense and is careless respecting the proper precautions in filling, is using poor judgment to say the least. Too much depends on proper filling for one to neglect it. Do not spare expense in getting the job done right.

### SELECT SEED IN THE FALL.

"Like begets like." So runs an old saying. It applies to all organic life. The truth of the saying as it applies to animals is better appreciated now than ever before. A special campaign for better sires in the domestic animals is now being waged by the U. S. Department of Agriculture, breeders associations and all those interested in seeing improvement among our farm animals.

Plant breeding and especially the improvement of our common farm crops has not received the attention that the importance of the question deserves. The basis of all improvement is in the selection of the best seed stock to use in producing the next generation. Many a farmer who would not consider for a moment the use of anything but purebred sires of good individual merit and breeding, does not hesitate to use any seed that is available at planting time, irrespective of its type, merit or adaptability to his conditions. Why not select our seed this fall for next year's crops, bearing in mind the old adage "Like begets like."

### CLUB MEMBERS SHOULD COMPLETE DEMONSTRATIONS.

Parents, club leaders and local leaders should make every effort to see that all club members enrolled for work during 1920 complete the piece of work they have started. There are two reasons for desiring a very high percentage of completions.

The percentage of completions for the years 1915 to 1919 inclusive, are 7.2; 40.6; 44.0; 55.2; and 63.5 respectively. We are steadily increasing our percentage. As a state we compare favorably with the others of the Western Division, ranking fourth among the eleven western states. Let us raise our percentage this year and each succeeding year until we are at the top.

The most important reason tho for completing the work started is for its effect on the boy or girl. Habits formed in early life are almost sure to remain a part of the future life of the child. A common failing among our people today is to start a lot of movements and plans and finish but a few. In other words, we are good beginners but poor finishers. Let us instill in the minds of the club children who will be the leading farmers and homemakers of New Mexico in a few years, those lessons of perseverance and determination which will mean so much to them and the state in succeeding years.

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Some city folks are just foolish enough to think it looks funny for the wife of the farmer who drives a good automobile to have to carry water to her kitchen from a well in the yard.

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Dairy cocktail! Scandalous? Not at all. One well-beaten egg and a few tablespoons of raspberry juice added to the milk and well shaken produce a carnation julep which is guaranteed to make Milwaukee jealous.

# POPULARITY OF MILK GOATS INCREASING

## EXPERIMENTS ARE BEING CONDUCTED AT STATE COLLEGE TO DETERMINE POSSIBILITIES FOR IMPROVEMENT

THE GOAT is the poor man's cow in many countries of Europe, being kept by families that cannot afford to keep a cow or find it inconvenient to do so. It has been stated that Greece has a goat to every one of her population, which amounts to 120 per square mile; Switzerland, 25 per square mile; and Portugal, 30. They have also found much favor in Ireland, France, and Norway. In addition to being the poor man's cow, it has been stated that before the war, Switzerland and Germany produced approximately $60,000,000 worth of goat milk products.

In the United States the goat has not been largely recognized as a milk producing animal except in limited sections but their popularity has been increasing rapidly during recent years. They have attained their greatest popularity in the southwest, particularly California. They are not confined to the poorer classes by any means, but are found in many city back lots as a source of milk for infants or invalids. The practice, common in England, of taking a goat along on vacation trips or when traveling is becoming more frequent.

### Types of Milk Goats.

The milk goat is a type entirely distinct from the mohair type such as the Angora or Cashmere. There is as much difference between the two types as between the dairy cow and the beef cow.

The three leading breeds of milk goats now bred in this country, are the Toggenburg, the Saanen, and the Anglo-Nubian.

The Toggenburg is a native of the Toggenburg valley of Switzerland and is one of the leading breeds of that country. The characteristic color of the Toggenburg is brown or chocolate with a white stripe down each side of the face, white about the base of the ears, a white fly on each side of the tail and white or gray legs. The breed is prolific. Grade Toggenburgs at the United States Experiment Farm, Beltsville, Maryland, made a little over 200 percent increase.

They are good milkers as a breed. Of course, it must be remembered in discussing any breed of goats, there will be good and poor individuals within the breed just as there are in the different breeds of cows. The Toggenburgs are found in greater numbers in this country than any other milk breed.

The Saanen breed is a native of the Saanen valley of Switzerland. It is pure white in color, with short hair, usually, except for a strip along the spinal column extending to the flanks and hind quarters. Individuals of this breed average slightly larger than the Toggenburg. They are beautiful animals and excellent milkers. Experiments at the United States Experiment Farm, seem to indicate that they are not quite so prolific as the Toggenburg but there is little difference in this regard.

The Anglo Nubian comes from England, having been bred up from the Nubian and the native goat of England. The Nubian is a native of Nubia, Upper Egypt, and Abyssinia, and is black, dark brown, or tan, with or without white markings. It is claimed that pure bred Nubian bucks are free, or nearly so, of the characteristic odor of the males of other breeds.

The Anglo-Nubian is somewhat variable in color but is usually black, tan or red, with or without white markings. A striking feature of this breed is the shape of the head and ears. The ears are long and drooping, sometimes hanging below the jaws and turning up at the ends. The forehead is prominent, the nostrils depressed and the lower jaw projects somewhat beyond the upper. The does are very prolific and excellent milkers.

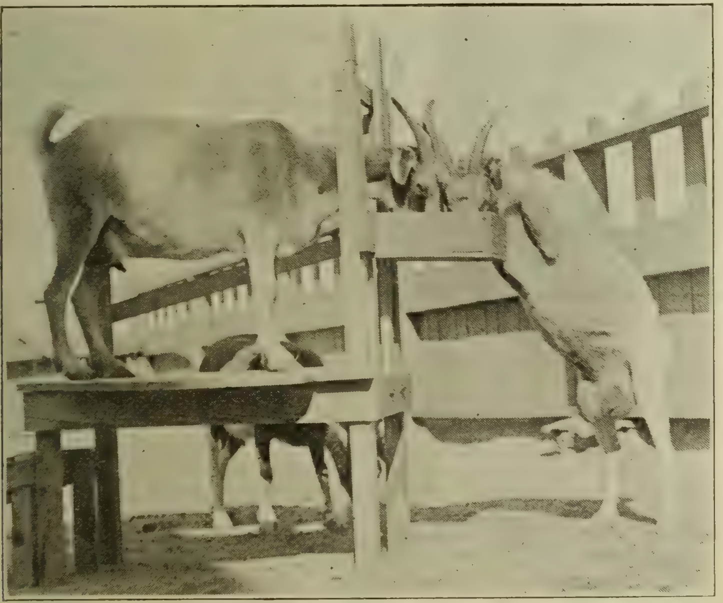
Each of the breeds mentioned above is considered to be hornless but horned individuals frequently appear in each of them and horns do not disqualify pure bred animals for registration in the American Milk Goat Record Association.

### Milk Yield.

A good milk goat should milk at least seven months and some will continue a profitable yield for ten or eleven months. A yield of two quarts a day is considered good and three quarts an excellent production. Productions of five and six quarts a day are often reported by owners of pure bred does and production as great as eight quarts has been claimed. A pure bred Toggenburg doe owned in California is reported to have produced 2941.5 pounds or 1470 quarts of milk in one year. The long time record is the important one because the doe that makes the highest record for one day is not always the one which makes the best record for the lactation period.

### Experiments Being Conducted.

Since there are a great many goats in New Mexico that are used chiefly or in part for their milk, the Experiment Station of the New Mexico College of Agriculture has initiated some work to determine what can be done in improving common or native does of the state by breeding to a pure bred buck of one of the milk breeds. The Toggenburg breed has been selected for that purpose and the Station has a pure bred buck to which ten native does have been bred. The does were selected from a native herd with the idea of getting does which would probably represent an average of those found in this state. The herd from which they were taken contained only short haired does with no evidence of Angora blood.



Native Nannie (No. 6) in College Experiments.

A variety of color markings are represented; two of them being solid white, one solid black, the others brown, black and white, and blue and gray.

The eight does which have kidded have averaged 2.63 pounds, or about 1.2 quarts per day during the first sixty days of their lactation period.

The poorest doe has averaged 1.68 pounds or about .8 of a quart per day, and the best, 4.54 pounds or 2.1 quarts per day. The highest production of the best doe for one day was 2.5 quarts and she is now giving 1.8 quarts after milking nearly three months.

The purpose of these figures is to show what ordinary native does will do. Data will be kept on their progeny when they come in milk, to see what improvement is secured by the use of a pure bred buck of a milk breed.

**Four Months Old Kid. Toggenburg and Native Cross.**

The milk of these native does has tested from 3.4 to 6.5 percent in butter fat. In most cases, the test has been near 5 per cent and the milk from the eight does will probably average near 5 per cent or about the same average as in Jersey milk.

The idea commonly held that goat's milk is much richer and more nutritious than cow's milk does not seem to be borne out by the facts, altho the milk of the native does seems to average somewhat higher in butterfat than that of the milk breeds judging from the limited data available. Professor Vorhies reports that the average test of the milk of the Toggenburg goats at the University of California is about 3.4 percent. The United States Department of Agriculture reports the milk from ten native does used at the United States Experiment Farm, as averaging 7.6 percent in fat while the butterfat from both half blood Saanen and half blood Toggenburgs averaged about 5 percent.

The fat globules of goat's milk are smaller than those of cow's milk and that probably accounts for the fact that in some instances it has given more favorable results with infants and invalids than cow's milk. However, the chief claim of the milk goat for consideration is not so much the difference in character of her milk from that of a cow, as the fact that she can be maintained on a small amount of feed and in a small place if necessary. Goat's milk does not have a disagreeable odor or flavor when produced under sanitary conditions.

O. C. CUNNINGHAM.

# Chamiso Brush (Shadscale) as a Stock Feed

(Atriplex Canescens.)

AN EXPERIMENT is now in progress at the College to determine to what extent chamiso brush may be depended upon to help carry cattle thru periods of feed shortage on the range. For this work, ten range cows in thin condition, with four calves, were turned on to a chamiso brush pasture January 30, and have remained there since; a period of almost four months. Five of them, known as Lot I, have had one pound of cottonseed meal per head daily in addition to the run of the pasture, and the other five, known as Lot II, have depended entirely on the pasture for maintenance. Two of the calves belong to each lot. They ranged in age from a few days to seven and a half months when the experiment began. All that were old enough to eat have been fed a small ration of cottonseed meal daily since January 30. Some of their mothers gave more milk than others, as indicated by the better condition of their calves and the poorer condition of the cows. The average gain per head on the Lot I calves to May 22 was 157 pounds, and on the Lot II, 136 pounds.

### Lot Without Cottonseed Meal Does the Better.

The average weight of the cows in Lot I, January 30, was 856 pounds and May 22 it was 821 pounds, which shows an average loss of 35 pounds per head. It should be kept in mind that this lot had one pound of cottonseed meal per head daily. The average weight of the cows of the other lot at the beginning of the experiment was 805 pounds and on May 22 836 pounds; the average gain per cow being 31 pounds. This shows well for the feeding value of the chamiso brush. One would naturally expect the better results from the lot having the additional feed, but nearly all the weighings, which were taken every two weeks, showed Lot II, having nothing but the pasture, to be doing the better. Great care was taken to make the two lots as nearly equal as possible when the experiment started.

### Nutrition Experiment Will Be Conducted.

A nutrition experiment will be conducted the coming year to determine the digestibility of this brush, which will give its feeding value more definitely in comparison with other native plants and also some of the cultivated crops.

### Chamiso Brush is Common Thruout the State.

This shrub is common thruout the state, being most abundant along the arroyos and upon the mesas and lower plains. The Tularosa Basin alone contains over 400,000 acres of it. It thrives best on sandy soils where the roots may easily penetrate to great depths for moisture. In the vicinity of the State these roots have been traced to a depth of over forty feet. This indicates why it continues to grow regardless of the regular rainfall.

This plant is known by different names in different parts of the state, such as shadscale on account of its dense, conspicuous panicle of winged fruits; or sage brush on account of its grayish, scaly leaves and habit of growth, which gives it a resemblance to the sage brush. In southern New Mexico it is commonly known by its Spanish name, Chamiso.

### Composition Compares Favorably With Other Feeds.

Chemical analysis shows the leaves with the finer portion of the stems that are eaten with them, to contain: 10.61 percent crude protein, 33.44 percent crude fibre, 41.62 percent nitrogen-free extract, and 2.05 percent of fat. The composition of the edible portion of this brush compares favorably with that of a number of the ordinary forage crops, such as oat hay, corn stover and kafir, milo and sorghum fodder. It contains more crude protein than any of these, stands well in nitrogen-free extract and fat, and contains but little more crude fibre. The indications are that its precentage of digestibility is about the same as that of the crops mentioned.

LUTHER FOSTER.

# Milk and Meat Inspection in New Mexico

IN SEVERAL of our larger towns in New Mexico we have very good ordinances covering milk and meat inspection. Pure milk, free from disease germs and filth, is important in New Mexico because the state is fast becoming a great sanitarium and also because it is the sole source of nourishment for thousands of helpless infants. One of the earliest ordinances controlling the healthy source of milk supply was inaugurated at Las Vegas by the ladies of the Civic Club, and since that time a number of other cities have taken the same progressive steps. It is impossible to bring new dairy stock into New Mexico unless they are tested for tuberculosis, and as a further precaution the state demands a retest within 90 days after arrival. This is a great source of comfort. It guarantees that the dairy man has healthy cows and his patrons are getting milk free from tuberculosis.

But what about inspection of meat, hotel and restaurants? This is something that should be taken up by the State Board of Health, which is the recognized authority and should be free and untramelled to act in all cases where the public health is concerned. There is no use in passing a law or an ordinance if there is no penalty attached. A suitable law should be passed and then it should be enforced. There is a tendency on the part of a great many of us to be too lenient and temporize with local matters. Too often we shut our eyes until something in the nature of an epidemic occurs, then we pass the buck.

I wonder how many towns in New Mexico have a local meat inspection ordinance. There are some places (with pretensions) where young calves a few days old are purchased by local butchers and it is presumed they are sold as food. This is something the Federal meat inspection regulations would not tolerate for a moment. The Bureau of Animal Industry defines the age a calf shall be before it is allowed to enter an establishment where Federal inspection is maintained. The very thoughts of eating calf meat a few days old is repulsive to most persons, but these conditions will go on unless the public makes a demand on the proper authorities for protection, irrespective of what pull may be exerted from influential quarters.

In some of the hotels in New Mexico the sanitary conditions are abominable. Here indeed is a great field for missionary work. Why not try the home state before going to China, or Singapore? In one well known hotel in our state patrons are obliged to go thru the water closet in order to reach the lunch counter, or thru the back alley like a rat.

I trust not many readers outside of our own state will read this article. It is not my intention to malign, but I think it my duty to bring the matter before the proper authorities for immediate remedy. The sunshine of New Mexico is a wonderful disinfectant and has no doubt prevented many epidemics in the past, but we ought to have some civic pride and prevent some of the abominable conditions that exist at present in a number of public places in our state.

E. P. JOHNSON.

## REPORT OF EGG LAYING CONTEST FOR JUNE

With the passing of June the climax of production for the year has definitely been passed. Even with the best individuals but few made the production for June equal to that of March, April and May. The percentage of production for the first eight months of the contest by months is November 8.07%, December 15.9%, January 30.1%, February 47.8%, March 55.6%, April 57.2%, May 49.6%, June 41.4%. The production for the entire contest to July first is 38.1% which is an average of 92.6 aggs per hen for the eight month period. The highest production to date is 148 eggs and the lowest is 45 eggs. There are 20 hens above the average and 30 which fall below the average.

| Pen No. | Owner | Pen. Prod. for Mo. | Pen Prod. to Date |
|---|---|---|---|
| 2. | Gentry Poultry Farm, White Leghorn | 78 | 567 |
| 4. | G. G. Gilmore, White Leghorn | 68 | 539 |
| 7. | Julius A. Ferguson, White Leghorn | 67 | 521 |
| 3. | G. Soulard Turner, White Leghorn | 44 | 486 |
| 1. | Henry Holland, White Leghorn | 73 | 466 |
| 14. | Neil Saunders Wheeler Bar. Plymouth Rock | 57 | 454 |
| 11. | Harley Caldwell Rhode Island White | 56 | 380 |
| 12. | Mrs. Sam Stovall, Bar. Plymouth Rock | 43 | 372 |
| 13. | C. B. Allaire, Bar. Plymouth Rock | 69 | 363 |
| 6. | K. Roshers, Silver Campines | 44 | 296 |

The five highest individual production for the month was made by nine hens in five different pens.

| Owner. | Hen. No. | No. Eggs |
|---|---|---|
| Gentry Poultry Farm | C258 | 21 |
| C. B. Allaire | C613 | 20 |
| Neil Saunders Wheeler | C620 | 19 |
| Gentry Poultry Farm | C260 | 18 |
| Henry Holland | C251 | 17 |
| Gentry Poultry Farm | C259 | 17 |
| Julius A. Ferguson | C281 | 17 |
| Julius A. Ferguson | C283 | 17 |
| Julius A. Ferguson | C284 | 17 |

The five highest individual productions to date are held by the following hens:

| Owner. | Hen. No. | No. Eggs |
|---|---|---|
| Gentry Poultry Farm | C259 | 148 |
| Neil Saunders Wheeler | C618 | 131 |
| Julius A. Ferguson | C283 | 127 |
| G. G. Gilmore | C666 | 123 |
| Gentry Poultry Farm | C258 | 118 |

R. B. THOMPSON.

# Summary for Culling

### Cull Out the Poorest.

First: Hens that show a well developed molt in July, August or September shoud be taken out and sold for market.

Second: During the same period a hen showing a shriveled, dry and hard comb and wattles should be taken out and sold for market.

Third: Hens with shrunken or contracted abdomen and a dry, puckered vent with dry leathery skin during this period should be taken out and sold for market.

Fourth: A hen with yellow beak and shanks at this time should be disposed of as a poor producer.

The first and second indications alone are enough to entirely eliminate a hen. All indications on one hen are sometimes found, but any two are enough and anye one, if a marked example, is enough.

### Save the Best.

After the poorest have been eliminated during the months of July, August and September, the best may be selected during the months of October and November by noticing:

First: Bright red comb, full, plump and velvety to the touch.

Second: No molt or incomplete molt.

Third: Prominent pelvic and sternal process bones, soft pliable abdomen, well developed and large.

Fourth: White or pale shanks and beak, eye ring, ear lobes and vent ring.

All favorable indications present will indicate hens above the average. Use judgment when some indications are not present and others are. For full details regarding culling secure Circular No. 50 from the Extension Division, New Mexico College of A. and M. A., State College, New Mexico.

## THE PRACTICE OF LIMING SOILS.

The practice of applying lime to soils has been followed in some parts of this country since its first settlement, in many parts of Europe for centuries and dates back 3,000 years. In view of these facts and the inquiries relative to the use of lime in New Mexico, a statement of its benefits and limitations seems proper.

### Some Benefits Derived From Lime.

Among the benefits several may be mentioned. Liming promotes the decomposition of organic matter or tends to direct it in a way favorable to the growth of crops; corrects soil acidity; improves the physical condition of heavy, compacted soils; may increase the availability of other minerals in the soil such as potash and phosphoric acid; may furnish needed lime to plants; and may counteract the injurious effect of an excess of some minerals such as magnesia. In practically all of the west, except at high elevations, soil generally and sub-soils always, contain appreciable quantities of lime. Rarely indeed in New Mexico does an acid condition exist in soils but rather is the opposite condition, an excess of alkali, quite common. This leads to the conclusion that, for New Mexico, the benefits can come only in making heavy, compact soils more crumbly, more retentive of water, and more easily penetrated by air and rain, and rarely in furnishing lime as plant food directly or liberating other forms of plant food already in the soil. The fact that crops benefited by lime, as alfalfa, beets, cabbage, pepper, and seed and stone fruits, grow quite well here, indicates that lime is normally present in sufficient quantities.

### Limitations of Lime.

Liming has its limitations. If the compact or acid condition of a soil is due to poor drainage, proper drainage is necessary before beneficial results may be expected from lime. Even under normal conditions the physical qualities of the surface alone will be immediately improved, while hardpan will be effected very slowly, if at all. Tho the lime may act to liberate plant food present, it will not supply any of the elements furnished by fertilizers—potash, phosphoric acid, or nitrogen—and if these are deficient they may be obtained only by adding the proper fertilizer or manure. In case the soil contains only a small amount of organic matter good results should not be expected without the addition of such organic matter, either in manure or green crops plowed in. Furthermore, liming cannot take the place of proper crop rotation, cultivation, or soil management.

### Form of Lime to Use.

For the rare cases in which lime may be applied to advantage in New Mexico, the form should be chosen with especial care, and attention given to the method of application. In the east, southeast, and some parts of the central west, where the soils are usually deficient in lime and where an acid condition of the soil is often a prevalent one, calcium carbonate, as limestone, natural or burned, is ordinarily used but is not advised here. On the other hand, the form commonly known as land plaster, sometimes called gypsum, calcium sulphate, or sulphate of lime, is quite desirable. It has all the good features of limestone, except that of counteracting soil acidity; and as our problem is more often one of alkalinity, it has the further advantage of adding no alkali, but in reality tending to offset the effect of alkali already in the soil, and adding sulphur, an element important in the growth of such crops as alfalfa. The application of acid phosphate in the form of commercial fertilizers, incidentally adds both lime and sulphur in the same form as in gypsum. An immense quantity of gypsum, in a physical condition especially adapted to immediate application occurs near Alamogordo, New Mexico. It is highly desirable to have the lime as thoroly and uniformly distributed thru the soil as possible. Probably application after plowing followed by harrowing is the most general and satisfactory practice.

V. F. PAYNE.

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The surest way to keep a house free from ants is to leave no food lying about on shelves or in open places where they can reach it. Ants go where they find food, and if the food supplies of the household are kept in ant-proof containers, and if all food that may happen to be scattered by the children or others is cleaned up promptly, the ant nuisance will be slight.

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Buy cautiously at the bargain counter. The half or third yard extra on the remnant is worth little to you unless you have use for it.

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A few trees and shrubs planted about the house are a means of changing it from a house to a home.

# Secretary Baca Urges Members Not to Become Panicky Over Wool Situation

THE FOLLOWING letter was sent out to sheep men over the state urging that all members of the Wool Growers' Cooperative Marketing Association refrain from selling their wool at low prices, but to keep in close touch with the association and sell their wool thru it:

"The very undesirable financial situation confronting the wool growers a few days ago has been somewhat relieved thru the plan worked out at a conference of growers, bankers, wool warehouse men, and representatives of the U. S. Department of Agriculture, with the governor of the Federal Reserve Board, at Washington, D. C., on June 21.

"Concerning the plan of financing the growers, you have already been advised, and if you are not familiar with it, you should consult your banker. It is the purpose of this letter to call your attention to the importance of standing squarely by the association in this critical hour. It is at such times, and under such conditions as prevail at this moment, that the speculator gets in his work, and it is only by standing square by your contract with the association that a very bad market condition may be avoided. If the speculators succeed in getting large quantities of wool at a low figure, the general market price of wool will certainly decline. Use the association for the very thing it was created to do—secure for you the highest possible price for your wool. Speculators are deeply concerned that our association shall cease to function, and to that end they will use every conceivable ruse to get you out of the association by buying your wool.

"Mr. McNabb, market specialist for New Mexico, has but recently returned from Chicago, where he attended a conference of the more important growers, warehouse men and bankers, and he reports that all were confident that the near future would witness a good wool market because of a world shortage and strong demand for wool fabrics. The same sentiment prevailed amng the wool dealers with whom he talked in Philadelphia.

"The world is not going to quit wearing wool cloth. There will probably never be any substitute for wool. The demand for wool is constantly increasing and there are fewer pounds available at this time than for a number of years past. What wool you have, has cost you good money to produce and you have a greater amount of cash invested in it than ever before, and there is no good reason why you should sacrifice by even trying to sell at a time when market conditions are perhaps the very worst. If you have trouble in which the association may be helpful to you, write to the secretary. He may have just the information needed to get you over a troublesome situation.

"The National Wool Warehouse and Storage Company of Chicago, with whom the association has contracted to handle all association wool, are in the best position to take care of our wants and secure for us a better price than can possibly be done by smaller wool warehouse companies or commission companies who may be bidding for your patronage.

"Stand squarely by the association.

"Very truly yours,

"WOOL GROWERS' COOPERATIVE MARKETING ASS'N.
"JOSE A. BACA,
"Secretary-Treasurer.

"Pendaries, New Mexico, July 1, 1920."

# National Wool Warehouse & Storage Company Explains Plan of Financing Wool

THE RECENT disturbance in wool market centers brought about an emergency situation in financing wool, resulting in complete standstill of wool markets, with attending difficulty in determining wool values.

This condition made it necessary to endeavor to bring about a quick working plan by which the wool business as a whole could be protected, and markets steadied, enabling wool to be stored and made available for distribution to market demand in a normal way.

Request was granted by the Federal Board at Washington for a meeting, Monday, June 21, 1920, which was attended by wool growers, bankers in wool producing sections of the country, wool buyers, warehouse men, manufacturers, and others interested in the wool trade. The entire day was given over to discussing all phases of the situation and the following statement was agreed to by the Federal Reserve Board:

> "A wool grower may ship his wool to one of the usual points of distribution, obtaining from the railroad a bill of lading for the shipment; the grower may then draw a draft against his bank, for such an amount as may be agreed upon by the grower and the bank, secured by the bill of lading. The Federal Reserve Act

authorizes any member bank to accept a draft secured in this manner at the time of acceptance, provided that the draft matures in not more than six months from the time of acceptance. After acceptance such a draft bearing the endorsement of a member bank is eligible for rediscount or purchase by a Federal Reserve Bank, provided, that it has a maturity of not more than three months from the date of rediscount, or purchase."

A simple illustration of financing a shipment of wool upon an acceptance as suggested by the board would be about as follows:

The customer owning the wool will arrange with his banker as to the amount the banker is willing to advance against the wool, the wool of course to be free, or release to be obtained for mortgage or any other lien. The owner will determine to what warehouse he desires to ship. He will then load his wool and obtain a bill of lading therefor. He will next draw a draft against his local bank for the period up to six months from date, but cannot be rediscounted at the Federal Reserve Bank if maturity is beyond 90 days from date. The banker will then accept the draft by writing the word "accepted" across its face, over the signature of some official of the bank, and will attach the bill of lading to the draft as collateral. This completes the arrangements and details of the acceptance.

When acceptance is completed, as stated above, the banker will make proceeds available at whatever rate of discount agreed upon with the maker, for the maker's use, and the acceptance is immediately eligible for rediscount at the Federal Reserve Bank and should be presented to the bank in the district of which the accepting bank is a member of the Federal Reserve System. If the bank is not a member of the Federal Reserve System but has acceptance privileges under the state law under which it operates, it may accept, but such acceptance privileges under which it operates, it may accept, but such acceptance to be eligible for rediscount at a Federal Reserve Bank must later carry the endorsement of a member bank of the Federal Reserve System.

This, briefly, covers the case. Inasmuch, however, as the different Federal Reserve Banks have somewhat varying rules as to the handling of acceptances, you should immediately communicate with your nearest Federal Reserve representative for any further suggestions or any particular blanks which they may have for use in connection with domestic acceptances.

NATIONAL WOOL WAREHOUSE & STORAGE CO.

# HOME ECONOMICS

## Conserve Food For Winter Use Now

THE FRUIT crop is poor in most parts of New Mexico this year and it will be necessary to carefully conserve what there is if we are to have enough to carry us thru the winter. The scarcity of sugar adds to the difficulties, but fruits may be canned with very little, or without any sugar and the sugar may be added when ready to use. This is usually done by adding it in the form of thick syrup, cold if the fruit is to be used cold, but if it is desired to have the fruit warm it may be cooked a few minutes in the hot syrup. Preserves, marmalades or even jelly may be made from fruits canned in this way.

Many kinds of fruits may be dried to advantage.

As fruits and sugar are scarce it will be desirable to make the best possible use of all the garden vegetables. Cans should not be allowed to remain idle, but kept working the entire year. This can be done by canning fruits and vegetables in succession as they appear during the season and as they are emptied filling them up again. Asparagras and spinach make good early canning and the same cans may be used for the fall fruits and vegetables. The vegetables may be successfully dried and stored in a small space. When these are properly dried or dehydrated and prepared for the table there is little or no difference in palatability or nutritious qualities between these and the fresh products. The following directions for the preparation of such products are given by the U. S. Department of Agriculture. MARY B. RICHARDSON.

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## DRYING GREEN BEANS.

The beans to be dried should be freshly picked, sound and as free from blemishes as possible. If the stringless variety are used stringing will not be necessary, but in case the string variety are used the strings should first be carefully removed. Any spots or blemishes should also be removed. The pods should then be cut transversely in pieces 1¼ to 1¾ inches long and dropped into cold water.

In order to secure a product which will not deteriorate upon storage, it is necessary to dip the pieces into boiling water and partially cook same before drying. The beans contained in wire baskets or gauze sacks are dipped 5 to 10 minutes in boiling water and may or may not be cold dipped after this dipping. Instead of boiling water a boiling salt solution (1 to 3 percent) may be used .

The beans are preferably dried by artificial heat. Sun drying is seldom rapid enough to give good dried vegetable products. Temperatures under 150° F. should be used for drying and the drying should be conducted in such a manner that flies moths or other insects will not have access to the material while it is drying.

The beans should be dried until crisp and packed as soon as dried into glass jars or tins.

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## DRYING OF APPLES.

The apples to be dried should be sound, firm stock and not soft or overripe, for best results.

The apples should be carefully pared and cored and all rotten or bruised spots carefully removed by hand. After paring, coring, and trimming the apples should be placed in cold water or a cold weak salt solution (1 to 2 percent by weight). Placing in water prevents discoloration.

The trimmed stock should be sliced in desired thickness. Rings 1-8 to 3-16 inch thick are generally preferred but small cubes ½ inch square are also desirable and will dry very rapidly. As the stock is trimmed it should be returned to the cold water or salt solution.

### Steaming or Dipping.

In order to prevent discoloration during the drying, either steam or dip into hot water before placing into the dryer. Steaming is preferable if steam is available but since in the household it is not usually available the apples will generally have to be dipped in hot water. The apples contained in wire baskets or gauze bags are dipped into boiling water two to four minutes, plunged into cold water and then placed in the dryer.

Apples may be dried at a comparatively high temperature without injury and the maximum temperature is about 160° F. It is essential that ample air circulation be provided.

Artificial drying is preferable to sun drying since it is cleaner and more sanitary. The drying should be conducted in a screened room if possible, where flies and moths will not have access to the product while it is drying. If the products are placed in containers immediately after drying there will be no danger of later infestation of insects. Glass jars or tins are preferable.

In case the apples are sun dried it will be found desirable to dip in boiling water ½ minute to 1 minute to destroy any insect eggs which may have been deposited on the product. The excess water is then driven off by placing in an oven for possibly thirty minutes.

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## SUGGESTIONS ABOUT BATTERS AND DOUGHS

The successful baking of breads, cakes and pastries comes by experience. A standard recipe cannot be followed absolutely under all conditions. Some flours absorb more liquid than others and so more liquid must be used in the recipe. Sifted flour is always meant and should be used to give good results. Measuring "a cupful" of flour before and after sifting shows a difference of almost ¼ cup more after flour is sifted.

Liquids added to baking powder mixtures should be cold so that the action will not take place before mixture is placed in oven. Baking powder should be measured by level spoonfuls. An access of baking powder in a mixture causes a coarse grain and often very large holes.

The cracking of muffins and cakes is due to too hot an oven or too much flour in the dough. If the oven is too slow the cake may be very coarse grained.

A moderate oven turns a piece of white unglazed paper golden brown in 5 minutes.

A hot oven turns a piece of white unglazed paper dark brown in 5 minutes.

LUELLA MADSON FOSTER.

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### A TABLE OF MEASURES.

| | |
|---|---|
| 3 teaspoons | 1 tablespoon |
| 16 tablespoons (dry material) | 1 cup |
| 12 tablespoons (wet material) | 1 cup |
| 2 cups butter, lard or any solid | 1 pound |
| 4 cups flour | 1 pound |
| 2 cups sugar | 1 pound |
| 2 cups chopped meat | 1 pound |
| 4½ cups rolled oats | 1 pound |
| 2 cups corn meal | 1 pound |
| 2 cups rice | 1 pound |
| 4 cups ground coffee | 1 pound |
| 9 eggs (large) | 1 pound |
| 4 medium potatoes | 1 pound |
| Juice of one lemon | 3 tablespoons |

# FARM BUREAU

## "Who's Who" Among the Farm Bureau Presidents

### L. E. FOSTER

### of Grant County.

L. E. Foster, president of the Grant county farm bureau is comparatively new in agricultural work but has already demonstrated his ability along this line. He is a graduate mining engineer and up to about 5 years ago practiced his profession in this and other states, being chief engineer for the Chino Copper Company for several years. He later became interested in the Gila Farms Company and became its manager in 1917. This is one of the most extensive farming and cattle ranches in the southwest, comprising about 50,000 acres of grazing and farming land.

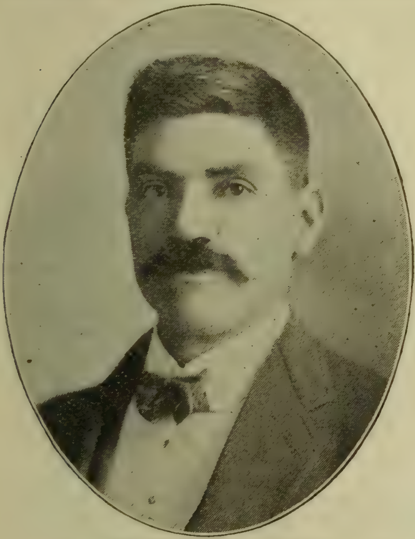
Mr. Foster has taken a keen interest in the development of the farm bureau and has rendered valuable service in building it up. His previous training has given him the ability to quickly gather and assimilate information and his experience in dealing with men has been of great value to him.

L. E. Foster, President Grant County Farm and Livestock Bureau.

### ANTONIO C. PACHECO
### of Taos County.

Mr. Antonio C. Pacheco, president of the Taos County Farm and Livestock Bureau, was born at Arroyo Seco, in Taos county, New Mexico, in 1865.

Mr. Pacheco was one of the most active farmers and stockmen in helping the farm bureau get started in his county in the fall of 1919. His chief work in connection with the farm bureau has been the organization of a cooperative flour mill, and the pooling of wool into the Wool Growers' Cooperative Marketing Association.



ANTONIO C. PACHECO
**President Taos County Farm and Livestock Bureau.**

Last winter Mr. Pacheco was elected member of the executive committee of the State Farm and Livestock Bureau.

In addition to operating a farm at Arroyo Seco Mr. Pacheco has a large bunch of sheep on the range. He was also in the mercantile business for about twenty years.

Mr. Pacheco was a member of the state legislature in 1909. He served as county treasurer and collector in 1917-18.

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This year offers a special opportunity to club members and others in canning work. A special effort should be made by everyone to stimulate the interest in home canning.

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"Do it now" is a good motto for cleaning spots off clothes. It takes no longer to do it before the clothes are put away; and the garments are ready to wear when wanted.

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Having the heels built up as soon as they begin to "run over" is first aid to the shoes; it will save the whole shoe from getting out of shape.

# BOYS *and* GIRLS' CLUBS

## The Field of Club Work in New Mexico

BOYS' AND GIRLS' demonstration work should be introduced into every community in the state. This is true because club work:

1. Teaches proper practices in agriculture and home making.
2. Encourages thrift.
3. Teaches business management.
4. Trains the whole child, head, hand and heart.
5. Gives children a personal earning capacity.
6. Develops interest in and love for farm life.
7. Develops rural leadership.
8. Makes better citizens, morally, intellectually and economically.

A club demonstration is a piece of work undertaken and completed by a group of boys and girls because of its need in the community, for the purpose of demonstrating to the community the value of the particular practice. It should be:

1. Practical.
2. Progressive.
3. Adapted to the community.
4. Profitable.
5. Adapted to the age of the child.

When a club member undertakes to carry to completion a club demonstration, in cooperation with other members of his or her group the effect to the child will be: educational, economical, social and vocational.

### Educational Feature of Club Work.

The work is educational in that it correlates more closely that which the child has learned in school with his home life. A member may carry to completion a canning project, but unless she can figure her costs and profits she is not in the true sense a good club member. The same is true of a boy in a pig, calf. or corn club. To become efficient as a livestock club member it is necessary for the boy or girl to pass under the following course of instruction for the year:

1. Enrollment.
2. Attend club meetings.
   - (a) Organization meetings.
   - (b) Regular meetings at which drill in parlimentary practice is given, papers read, talks given and demonstrations conducted along the line of work being undertaken.
   - (c) Social meetings at which club songs, games and contests are held. Picnics, hikes and camps are also encouraged.
   - (d) Community tours to inspect other members' demonstrations and good types of livestock that may be available.
3. Borrow money from the bank to secure registered stock.
4. Keep record of expenses and receipts thruout the season.
5. Judge livestock.
6. Give public demonstrations.
7. Tell of his work at achievement day program.
8. Write story of achievement.
9. Make final report of work.
10. Exhibit work at local, county or state fair.
11. Pay off note at close of season.

In glancing over the above list of things which are required of club members during the year, it is easy to see the educational feature of the work.

### The Economic Phase.

The average farm boy and girl handles very little money and that which they do receive is doled out to them a nickel at a time for the asking. They usually have nothing that is their own on the farm and consequently have no interest in farm and home life. It is all drudgery to them. Club work aims to give the boys and girls something of their own. Something for which they borrow money to get, raise and when sold are to receive the profit, to use in any way they see fit. Personal ownership will do more to keep farm boys and girls interested in and on the farm than any other single feature. Club work makes for ownership, partnership and citizenship.

### The Social Life.

The social life in rural communities is, as a rule, very much neglected. It is also a vital reason why boys and girls prefer the city to the country. Clubs aim to add social life to their work thru its meetings, demonstrations, community tours, picnics, achievement days and community fairs, and help, if possible, to make rural life more pleasant for the boys and girls.

### The Vocational Side.

Boys and girls decide early in life, the things they like and dislike. If by having one or two experiences of "son's colt becoming dad's horse" and the social life is neglected, they will surely turn elsewhere for their life's work. Why should we let them do this when thru club work a great part of this city migration can be prevented. Why not interest farm raised boys and girls in the vocation of their fathers rather than try to educate the city boy and girl to fill the place where the country youngster should naturally and by virtue of his early training, better fill.

R. G. FOSTER.

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# THE NEW MEXICO FARM COURIER

Vol. VIII. SEPTEMBER, 1920. No. 9.

HERD OF DOUBLE STANDARD POLLED HEREFORDS
JOHN McGILLIVARY, LUCY, N. M.

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# THE NEW MEXICO FARM COURIER

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## EDITORIALS

The Breeders Gazette in the issue of July 29 contained two excellent articles concerning the marketing activities of producers of agricultural products. One article dealt with the Chicago Marketing conference held July 23 and 24. This meeting was called by President Howard of the American Farm Bureau Federation, and concerned itself primarily with marketing problems affecting the producers of grain crops. Time alone will reveal the results of this meeting. Such conferences have been held before without very tangible results. However, the fact that all farmers' organizations interested in grain marketing were represented at the Chicago meeting and that the American Farm Bureau Federation took the lead in the matter, speaks well for the future. Producers are thoroughly disgusted with our modern cumbersome and expensive systems of distribution. It is well that they are taking thought of ways and means of repairing, modeling, or junking some of the machinery of distribution which is now in use.

Every state in the Union can show notable examples of successful cooperative marketing of agricultural products. The county farm bureaus are taking a leading part in the movement, as did the national Federation in the meeting in Chicago. The Dona Ana County Farm Bureau has recently employed a sales manager to assist the local organizations such as the Cabbage Growers and Pear Growers in their marketing activities. The Market Specialist of the Extension Division is constantly engaged in assisting the marketing organizations of the state. A degree of success has been attained to date, but the results of such activities five years from now will make present accomplishments appear insignificant.

Any handy man can make a dumb waiter. It carries loads up and down cellar stairs easier than a woman can.

A well filled silo is a treasure during a drouthy period, but you must build the silo before you can fill it.

# "YOUR COLLEGE"

HOW MANY of the people of New Mexico who are helping to support the New Mexico College of Agriculture and Mechanic Arts understand the nature of the work which it is conducting? Doubtless, few For that reason this statement is given.

The work of the College is grouped into three divisions—first, the Academic, second, the Experiment Station, and third, the Extension Service. The Academic division comprises the educational work carried on at the College, and embraces the School of Agriculture, the School of Engineering, the School of General Science, the Department of Home Economics, the Commercial Department, and Preparatory Department. The several schools are under the direction of their respective deans, who are coordinate in rank and directly responsible to the President. The Home Economics department, the Commercial department, and the Preparatory department are at present under the direction of the Dean of General Science. The Experiment Station, which is under the supervision of the Director, has for its work the carrying on of all investigational and research work at the institution. The Extension Service, which is also in charge of a Director, has for its work the carrying of the teachings of the College and the results obtained by the research departments of the Experiment Stations and the U. S. Department of Agriculture to the people of the state.

At this time the opportunities offered by the academic department are properly holding a prominent place in the minds of people who are planning to give their children the advantages of special training. Last year, the College experienced the greatest growth of its history, with an increase of 52 per cent. over that of the previous year. This remarkable increase was doubtless due in part to the fact that a number of men who had finished high school were just returning from service in the army, and decided to continue their work at college. This was a condition found in every college in the United States, but more especially so in the colleges giving specialized work, such as agriculture, engineering, and the sciences. The war taught many lessons, but probably one of the most valuable was the importance of college training.

That the value of the work at the New Mexico State College is recognized abroad is attested by the fact that a number of students enrolled last year were from foreign countries. Among these, we find one from Russia, two from Ireland, four from Mexico, and three from Canada. This year a young man from China has already enrolled for work in irrigation engineering and allied agricultural subjects. This young man is already a graduate of one of the higher institutions of learning of China and has taken work in the University of Illinois the past year. Other states also sent an appreciable precentage of the students who were enrolled in the College last year, over fifty students, in all, being registered from the various states, outside of New Mexico.

The type of the students enrolled and the general atmosphere of the place make it a democratic institution. Last year over 20 per cent. of the students were earning a part, or the entire expense of their college education thru work on the college farm, in the shops, or about the campus. These same students, instead of being looked down on by the others whose parents furnished the entire cost of their education, took leading parts in college activities and were among the best students in their respective courses.

To one who successfully completes a course at the State College, a variety of opportunities are open. Among the agricultural graduates, those who have had considerable practical experience in addition to their technical training, readily find positions as county agents in this or adjoining states, in case they care to take up such work. The Smith-Hughes or vocational work in the public schools will take more graduates than the College can turn out. A number of graduates have pursued further studies in other agricultural colleges for advanced degrees and have taken positions in colleges as teachers and as experiment station workers. A number of farm and ranch managers in this and adjoining states are recruited from the ranks of those who have had agricultural training in state colleges such as the one in the Mesilla Valley, many of the graduates after completing their college work return to the home farm to put into practice some of the principles they have studied in the classroom and the laboratory. A study of the present occupations of the agricultural graduates of the colleges of the United States shows that type is constantly increasing. No longer is the idea held that a college education is wasted on a farmer. Last year, owing to the inroads of the war, only two students completed the agricultural course. One of these is now doing first-class work as a county agent, for which he is receiving a salary of $1,800; the other is engaged to do agricultural teaching work at the College for next year at a salary of $1,725. His work will be with the disabled soldiers, who are being given vocational training by the Federal Government.

Of the students who graduated last year in General Science one has been engaged to teach some courses in science in the College and also to do experiment station work, at a salary of $1,620. Another has gone into business for himself.

THE COLLEGE BAND

Three of the graduates in Home Economics have been engaged to teach the subjects in which they did their major work in college, in high schools of the state, under the Smith-Hughes vocational act. Their average salary is approximately $1,300 per year.

The complete business course given at the college covers two years. In that time a student will have a thorough mastery of accounting as well as shorthand and typewriting. One year is considered sufficient for either the accounting or the shorthand and typewriting courses. Some of the students who enroll in this department do not remain for the two years, largely because of the fact that at the end of their first year positions are offered to them which they do not feel able to refuse. Graduates from this department go into business offices and compare favorably with those turned out by the commercial schools of the country.

The School of Engineering has calls for many more men than it can supply. Many of the graduates of the standard four-year engineering courses can take positions at salaries around $150 per month. However, large percentages choose to take so-called apprentice or student courses in the large engineering firms of the country, such as the General Electric Company or the Westinghouse Company. The last year's class, to a man, took up this type of work. Such work, while not paying especially high salaries at the start, gives the men sufficient to live on very comfortably for two years, at the end of which time they have thoroughly mastered all the details of the manufacturing work done by their respective companies. As a result, they are in position to command much better salaries than if they went out into the commercial field immediately after graduation. Mention might be made of one of the graduates of the College who is at the present time erecting engineer for the Westinghouse Company. Last year he was sent to Spain by them and has also erected electric plants for them in various parts of South America. Another is head of the department of civil engineering in the University of South Dakota; while still another is in San Francisco, where he is engaged by one of the large steel construction companies.

HORTICULTURAL FARM—CLASS IN PRUNING

All evidence points to the conclusion that State College graduates make good. The State and Federal Government have provided equipment and a faculty second to none in the southwest. Will the youth of New Mexico embrace the opportunities here lying before them? The answer should be an overwhelming affirmative.

C. F. MONROE.

A farmer who has faith in his calling is the one who is most likely to succeed.

Better Boars Bring Breeders Better Bank Balances.

# WEEDS, THE ROBBER CROP

IF IT be true that the man is a benefactor who makes two blades of grass grow where but one formerly grew, how about the man who, by sowing poor seed, causes a whole field of weeds to grow where there should only be blades of grass? Or, how about the man who neglects to cut down noxious weeds and grasses before they make seed, thus allowing them to spread to his neighbor's field?

### What is a Weed?

A weed is a plant out of place. There are annuals and perennials; that is, those that die out each season and those that live for more than one year. A weed, no matter what kind, is an "undesirable citizen" and as such should be exterminated. Weeds rob the farmer; they steal right before his eyes. They make him work harder and earn less. They get "free lunches" every day on New Mexico farms.

One ounce of prevention beats a pound of cure, for one little weed seed planted, may bring forth a thousand healthy seeds for the farmer to wrestle with next season.

Weeds mean waste for they take moisture and plant food that belong to other plants and often ruin both the seed and hay crop, besides furnishing an excellent harbor for insects and fungi after the crop has been removed.

### Keep Weeds Off the Farm!

Weeds, when once introduced into a locality, are hard to get rid of, especially if they are particularly well adapted to the region. When weeds spread rapidly over a given territory, people like to blame the birds, winds, or running streams, but usually the start, at least, should be laid to the hand of man. He often shuts his eyes, pays his cash for weed laden seed, and sows it on a splendidly prepared seed bed where it will make the best showing. Most weeds show a larger percentage of germination than grass or clover seed. Weeds have been fighting their own battles for ages and, as a result, they have much greater powers of resistence and greater vitality than cultivated crops which have been improved and bred to a high point for centuries.

### How to Get Rid of Weeds:

The first point in getting rid of weeds is to avoid sowing weedy seed. In other words, **Sow Good Seed.** Examine the seed carefully before buying and if its contains weed seed, don't buy it, for it simply means buying trouble. Remember that the weeds must have matured at the time the crop did, else the weed seed would not have been there.

The second point is to prevent, in so far as it is possible, any and all weeds from producing seed. This is not so difficult as it might seem for many weeds bloom but once a year. The cheapest and easiest time to kill weeds is just as they sprout. At this time most any kind of tillage implements, if properly used, will kill the weeds. Even the most persistent weeds can finally be killed by keeping them shaved off an inch or more below the surface. Most plants require chlorophyl in order to grow, and chlorophyl can not be produced without sunlight. Therefore, keeping the weeds cut down below the suface starves them out.

RUPERT L. STEWART.

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All animals require plenty of good, pure water. This is especially true of the milking cow, as water constitutes more than three-fourths of the volume of milk. Stale or impure water is distasteful to the cow and she will not drink enough of it for maximum milk.

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Many a farmer has found that advertising in his farm bureau news has paid him well. Then he has increased the number of persons he could reach by advertising in his local papers. Ever try it?

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Are you getting as much as you should from your county agent? He is in touch with state and federal workers in agriculture and can get their information for use on your farm. Let him help you.

# Climatic Conditions Unfavorable

CLIMATE is generally acknowledged to be a limiting factor in the growth and production of crops. Climatic conditions may be favorable or they may be unfavorable. Our attention is more frequently attracted by the unfavorable, or rather the extreme conditions, such as have existed during the past spring months. A comparison of temperature and wind velocity data of the past spring with that of preceding years will help to explain some of the difficulties of getting a good germination and the light growth that was made during the spring.

**Table—Showing Comparison of Temperatures for February, March and April.**

| | February | | | March | | | April | | |
|---|---|---|---|---|---|---|---|---|---|
| Year. | Mean Max. | Mean Min. | Mean | Mean Max. | Mean Min. | Mean | Mean Max. | Mean Min | Mean |
| 1907 | 68.2 | 32.9 | 50.5 | 75.4 | 39.7 | 57.7 | 80.6 | 47.7 | 64.1 |
| 1908 | 62.0 | 29.7 | 45.8 | 74.3 | 37.6 | 56.0 | 78.2 | 44.6 | 61.4 |
| 1909 | 60.7 | 29.7 | 45.2 | 64.8 | 34.0 | 49.4 | 76.8 | 40.6 | 58.7 |
| 1910 | 60.3 | 29.2 | 44.7 | 74.5 | 42.0 | 58.2 | 78.0 | 43.6 | 60.8 |
| 1911 | 57.1 | 33.4 | 45.2 | 72.0 | 41.2 | 56.0 | 74.9 | 42.1 | 58.4 |
| 1912 | 59.6 | 28.6 | 44.1 | 65.8 | 36.4 | 51.1 | 70.3 | 40.3 | 55.3 |
| 1913 | 56.8 | 28.8 | 42.8 | 65.3 | 32.5 | 48.9 | 74.8 | 39.7 | 57.2 |
| 1914 | 62.1 | 28.5 | 45.3 | 67.0 | 32.6 | 49.8 | 78.0 | 43.2 | 60.6 |
| 1915 | 60.7 | 30.6 | 45.6 | 62.9 | 32.7 | 47.8 | 75.3 | 42.6 | 58.9 |
| 1916 | 67.6 | 32.2 | 49.9 | 73.5 | 40.0 | 56.8 | 76.1 | 43.1 | 59.6 |
| 1917 | 61.9 | 27.0 | 44.4 | 68.2 | 29.6 | 48.9 | 76.2 | 39.5 | 57.8 |
| 1918 | 64.5 | 31.1 | 47.8 | 70.1 | 37.5 | 53.8 | 75.2 | 42.9 | 59.0 |
| 1919 | 57.8 | 24.9 | 41.3 | 66.6 | 35.0 | 50.8 | 77.4 | 44.7 | 61.0 |
| 1920 | 63.4 | 36.4 | 49.9 | 66.0 | 33.3 | 49.8 | 72.2 | 38.9 | 55.6 |
| Normal | 57.3 | 29.5 | 46.2 | 69.0 | 36.0 | 53.2 | 76.4 | 42.4 | 60.8 |

The most striking fact concerning the past spring as shown in the table is the unusually warm weather during February, followed by unusually cold weather during March and April. The mean temperature for February, 1920, was 0.1 degrees higher than during the month of March, while the mean minimum temperature during February, 1920, was 3.1 degrees higher than during March, and only 2.5 degrees lower than during April. This is the only season during the 14 years that such a condition has occurred. It is also the only season during the 14 year period in which the mean minimum temperature for February reached as high as 36.4 degrees. The mean temperature for February, 1916, was the same as 1920; the mean temperature for February, 1907, was 0.7 degrees higher than 1920. Those two years, however, were followed by comparatively warm weather during March and April.

When we compare the 1920 temperatures with normal temperatures, we find that the mean temperature for February was 3.7 degrees above normal, while the mean temperature for March and April was 3.4 and 5.2 degrees, respectively, below normal. The figures for normal temperatures show an increase in the mean temperature from February to March of 7 degrees and from March to April an increase of 7.6 degrees. During 1920 there was a decrease of 0.1 degrees from February to March and an increase of only 5.8 degrees from March to April, making an increase of 5.7 degrees from February to April as compared to 14.6 degrees increase for normal for the same period.

The following table shows that the wind velocity for March and April, 1920, was unusually high, in fact the greatest average velocity recorded during the 12-year period. This high wind velocity together with the unusually low temperatures needs but little further explanation as to the effect they have had on crop growth during the past spring.

### WIND VELOCITY.

**Table Showing Wind Velocity.**

**Miles per Hour.**

| Year | Feb. | Mar. | April |
|---|---|---|---|
| 1909 | 8.9 | 7.7 | 9.0 |
| 1910 | 7.8 | 7.7 | 9.1 |
| 1911 | 8.2 | 7.2 | 8.6 |
| 1912 | 8.4 | 9.3 | 9.1 |
| 1913 | 5.0 | 6.1 | 6.8 |
| 1914 | 6.9 | 6.1 | 6.8 |
| 1915 | 7.4 | 8.2 | 8.6 |
| 1916 | 7.3 | 9.7 | 8.6 |
| 1917 | 7.7 | 8.2 | 8.7 |
| 1918 | 9.6 | 9.4 | 11.6 |
| 1919 | 9.3 | 9.5 | 8.2 |
| 1920 | 7.3 | 11.2 | 12.2 |
| Normal | 7.8 | 8.3 | 8.9 |

The warm season crops especially have been injured and are backward. In some instances a reseeding was necessary on account of poor germination due largely to the cold nights.

C. A. THOMPSON.

"The purpose of United Americans shall be to preserve the Constitution of the United States, with the representative form of Government and the right of individual possession which the Constitution provides; to stand firm for law and order; to foster among our people high standards of individual and corporate conduct; and to advance the prosperity and happiness of all the people of the United States."—Article II of the Constitution of United Americans.

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"When the farmers adopt the 40 hour week" mused the city man who was born and raised on a farm, "I guess one of our problems will be to find a substitute for eats."

# Blackberries in New Mexico

THERE are probably not more than ten or fifteen acres of blackberries grown in New Mexico, and so little is written on their culture that people generally know very little about them. The College has a patch of blackberries on its horticultural farm, consisting of about a half-dozen varieties. Most of these have done well, and produced excellent berries on a light sandy soil. This soil had previously been planted to strawberries, but the strawberry plants were burning up and dying so badly, they had to be moved to a better soil. The fact that the blackberry appears so much more hardy and productive than the strawberry, in our hot, dry sections makes it worthy of consideration, altho its thorns make it a little difficult to pick.

### Soil for Blackberries.

Altho the blackberry will thrive on a great variety of soils, the finest wild blackberries are found in moist locations where leaf mold is abundant. Probably the best soil for blackberries is a deep, sandy loam containing a large supply of humus. This humus can be supplied by the use of plenty of manure, which will also make the soil retain moisture much better. Such a soil is easily handled, and if cultivated and given frequent shallow irrigations it will produce excellent berries.

### Method of Planting.

After the soil has been plowed deeply, and worked down to a finely pulverized condition, the plants may be set three or four feet apart in rows six or eight feet apart. The plants may be set in furrows, which will make the work rapid, and water can be run down the furrows immediately after the plants are set out. It is important to set the plants so the crown will be slightly below the surface of the soil, and firm the dirt well about the roots.

Planting should be done in the early spring, as the dry winter winds may cause many of the plants to die if set in the fall. The plants are usually cut back to within about six inches of the ground when set.

### Pruning the Plants.

If all of the suckers which appear are allowed to grow, by the end of the second or third year the field will be a dense thicket of canes and the berries can be picked only with great difficulty. The suckers compete with the parent plant for food, moisture and light. Therefore, the plants should be kept in rows and all suckers appearing between these rows should be destroyed by frequent cultivation or hoeing. If this is done the patch can be kept in cultivation; the roots and canes will be healthier, and the berries will be much larger and more easily picked.

The blackberry bears its fruit on canes that grew the previous summer. Having borne fruit the canes die, and are replaced by canes that grew the same summer, and which will bear fruit the following summer. As soon as the season's crop has been harvested, or during the following winter or spring, the canes that have borne fruit should be cut out and burned. All new canes should be cut back to within four to five feet of the ground every spring.

### Varieties Adapted to This State.

As with most all kinds of fruit, there are a great many varieties of blackberries which do well in different localities, but certain localities become well known for the production of certain varieties. Therefore, it is important to choose a productive kind, of good quality, that thrives in your locality.

The McDonald, Sorsby, and Haupt are three of the best varieties growing on the horticultural farm. Of these, the Haupt is probably the best. The bush is large and healthy and bears a good quantity of very large sweet berries.

A. B. FITE.

The smut of wheat, barley, oats and rye cause losses which are estimated conservatively at $50,000,000 in the United States in the average year.

## REPORT OF EGG LAYING CONTEST FOR MONTH OF JULY

During this month there has been one exchange of places, pen 14 has passed pen 1 in the total column. Pen 4 has made a slight gain on pen 2 which has held the lead since the contest started. The pen having the most consistent producers will show to better advantage from now to the close of the contest and it would not be unexpected if there would be further changes. Financially the contest is already a success on account of the fact that the eggs for July will clear the expense of the contest for the entire year.

| Pen | Owner | Pen Prod. for Month | Pen Prod. to Date |
|---|---|---|---|
| 2 | Gentry Poultry Farm | 91 | 658 |
| 4 | G. G. Gilmore | 94 | 633 |
| 7 | Julius A. Ferguson | 62 | 583 |
| 3 | G. Soulard Turner | 82 | 568 |
| 14 | Neil Saunders Wheeler | 74 | 548 |
| 1 | Henry Holland | 41 | 507 |
| 11 | Harley Caldwell | 51 | 431 |
| 13 | C. B. Allaire | 61 | 424 |
| 12 | Mrs. Sam Stovall | 45 | 417 |
| 6 | K. Roshers | 45 | 331 |

The five highest individual productions for the month were made by sixteen hens from seven different pens:

| Owner | Hen No. | No. Eggs |
|---|---|---|
| Neil Saunders Wheeler | C620 | 22 |
| Gentry Poultry Farm | C260 | 21 |
| G. G. Gilmore | C666 | 21 |
| Harley Caldwell | C675 | 21 |
| C. B. Allaire | C613 | 21 |
| Gentry Poultry Farm | C259 | 20 |
| G. G. Gilmore | C267 | 20 |
| G. G. Gilmore | C268 | 20 |
| G. G. Gilmore | C269 | 20 |
| G. Soulard Turner | C261 | 19 |
| G. Soulard Turner | C653 | 19 |
| Julius A. Ferguson | C283 | 19 |
| C. B. Allaire | C615 | 19 |
| Gentry Poultry Farm | C258 | 17 |
| G. Soulard Turner | C265 | 17 |
| Neil Saunders Wheeler | C678 | 17 |

Highest individual productions to date:

| Owner | Hen No. | No. Eggs |
|---|---|---|
| Gentry Poultry Farm | C259 | 168 |
| Julius A. Ferguson | C283 | 146 |
| Neil Saunders Wheeler | C618 | 146 |
| Gentry Poultry Farm | C258 | 135 |
| Gentry Poultry Farm | C257 | 131 |
| G. G. Gilmore | C270 | 129 |

R. B. THOMPSON.

The housekeepers cooperative canning club in Bernalillo county, working with the home demonstration agent, has begun the building to be used for the community canner. The large pressure cooker has been ordered and will be delivered soon. Tin cans will be used in this community canner. This wide-awake community is to be congratulated on its enterprise.

If wall papers in brilliant colors and striking designs are replaced by papers of softer color and simpler inconspicuous designs, the result is apt to be more pleasing.

There are two ways to can corn. One is in cans and the other is in the silo. Can all you can both ways.

# Horse Dealers Behind on Orders

INCREASED PRODUCTION of good horses is the great need at present. Fiss, Doerr and Carroll Horse Company, of New York, one of the largest firms dealing in horses in the East, state that they sold more draft horses for city use in the first six months of 1920 than in any other period for many years, and could have disposed of many more had the supply been available. A .M. Ernest, general manager of the company, when interviewed on Friday, July 16th, said of the situation in the east:

"We have enjoyed an unusually good trade this year. City users of transportation are swinging back to big draft horses as the cheapest, most reliable and most efficient motive power for all heavy transportation within the working radius of a horse, despite the increase in the cost of feed, which has been formidable during the last year.

"City users are also coming to realize that for all hauls, no matter what distance, where frequent stops are involved, as in delivering groceries, ice, milk, or other supplies furnished to customers on regular routes, horses are the only practical economical hauling power. The trade is gaining. Our great problem today is to supply that trade. Good horses are becoming increasingly scarce and prices have been higher this season than we have ever know. Heavy draft teams have been bringing from eight to twelve hundred dollars per pair, but if they go much higher, the balance of favor will be liable to swing to motor trucks. There is a good profit to farmers in raising draft geldings to bring $325 to $400 on the farm, yet we can not get enough of that type.

"The market is here and will continue as long as the supply is anywhere near adequate. I know that about ten central west states—Ohio, Indiana, Illinois, Wisconsin, Missouri, Kansas, Iowa, North and South Dakota and Nebraska—produce ninety percent of all the good draft horses that eventually find their way into city use, but our buyers in the Mississippi valley report that farmers haven't bred their mares during the last four years, and but few are in position to sell any heavy draft animals.

"In the past, good farms had young stock coming on, and could and did sell their mature mares and geldings hardened and suitable for city use. Today, on account of the fact that no young horses are coming on to take the place of these older ones, they can not spare the horses seven to eight years old. It is a great handicap to our trade."

**Advises Corn Belt Farmers to Buy Western Horses.**

Charles Irvine, president of the American Association of Importers and Breeders of Belgian Draft Horses, is of the opinion that never in past history has there been so great a scarcity of foals and yearlings in proportion to the total horse production of the United States as at the present time.

Mr. Irvine, accompanied by William Crownover, recently drove fifteen hundred miles on a round trip thru Iowa and Minnesota. They, as experienced horsemen, observed the horses passed en route. During their entire trip they saw but nine foals, and estimated more than a thousand mares at work or in pasture without colts at side.

"The public generally doesn't realize the great scarcity of good horses now confronting us," said Mr. Irvine. "Every effort must be made to increase production. I look for heavy breeding next year, but it will be four years before such stock can be put into the collar. Our only hope for an immediate supply is to purchase good young western horses. Such horses, carrying three or four crosses of draft blood, will, if matured in the corn belt, develop to draft size. Their purchase will permit farmers to sell their mature, hardened horses, suitable for city use, before depreciation sets in, and realize a profit on the western stock which they feed out to better maturity and weight while doing farm work."

A. P. Coon, western representative

for the Horse Association of America, confirms Mr. Irvine's report, but adds that in some communities the farmers recognize the situation confronting them, and with few exceptions, the breeding situation is very serious.

WAYNE DINSMORE, Secretary,
Horse Association of America.

One reason for the cow testing association: It lets the farmer know which are the best cows from which to raise calves.

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A bargain counter is a bargain counter only for those who are good judges of values.

# HOME ECONOMICS

## Are the Children of New Mexico Getting a Square Deal?

THE Berendo group of women in Chaves county have been doing an excellent piece of work in child care and feeding. This work was begun with the home demonstration agent but has been kept up in a worthy manner, tho there has been no agent in the county for the past eight months.

These women are planning to give the results of their work for publication soon.

The following thoughts are emphasized in one of the leaflets from the Children's Bureau at Washington, D. C.

**What Do Growing Children Need?**

Child-welfare experts consider the following necessary for the child's best growth and development.

**Shelter:**

- Decent, clean, well-kept house.
- Plenty of fresh air in the house, winter and summer.
- Warm rooms in cold weather.
- Separate bed, with sufficient bedclothes to keep warm.
- Sanitary indoor water-closet or outdoor privy.
- Pure, abundant water supply.
- A comfortable place to welcome friends.

Has your child these?

**Food:**

- Three square meals a day.
- Clean, simple, appetizing, well-cooked food.
- Meals at regular hours and sufficient time for them.
- Dinner at noon for children under 7 years of age.
- The daily diet should include:
  - Milk, at least 1 pint a day.
  - Cereal and bread.
  - Green vegetables, especial leafy vegetables.
  - Fruit.
  - Egg, meat or fish. If none of these three is used, an additional pint of milk should be given.

Has your child these?

**Clothing:**

- Clean, whole garments.
- Different clothing for day and night, suited to the climate.
- Change of underclothes and nightgown at least weekly.
- A change of stockings at least twice a week.
- Warm underclothing and stockings in cold climates.
- Heavy coat, cap, and mittens for cold weather.
- Shoes, free from holes and long and wide enough.
- Foot protection against rain or snow.

Has your child these?

**Health and Personal Habits:**

- Hands and face washed before meals and at bedtime.
- Bath every day, or at least once a week.
- Natural bowel movement every day.
- Teeth brushed at least twice a day (morning and night).

Regular bed hour.
Ten hours of sleep at night with open windows.
Correct weight for height.
Has your child these?

**Recreation and Companionship:**

A safe clean, roomy place for outdoor and indoor play.
At least two hours outdoor play every day.
Constructive and suitable playthings and tools.
Some one with sympathetic oversight to direct play.
The right sort of playmates.
Has your child these?

**Education and Work:**

Schooling for at least nine months a year from 7 to 16 years of age.
Not more than two hours of "chores" outside school hours.
Not enough work either in school or out to cause fatigue.
Vacation work, if any, must allow ample opportunity for the proper amount of rest and recreation.
Has your child these?

**Religion and Moral Training:**

Opportunity for religious training.
Proper moral and spiritual influence in home.
Teaching of standards of right and wrong in daily life.
Has your child these?

## WOMEN IMPROVING LIVING CONDITIONS IN COUNTRY

The women of the Farm Bureaus in the counties having home demonstrations agents are doing a great work in making the country a more attractive place in which to live, by helping to provide for the rural home the conveniences found in the city home, thus tending to keep people on the farm, instead of going to town where living conditions are apparently better.

Country houses are being made more convenient and attractive, better food is being planned for the family table, more attractive and cheaper clothing is being made, sanitary conditions are being improved and sickness prevented.

Many women are becoming interested in the new paper dress form that is being demonstrated by the home demonstration agent. This form is an exact model of the form of the woman for whom it is made. It is completed at a cost of about one dollar and such a form is of intestimable value to the woman who does her own sewing.

If there are women in counties where there are no home demonstration agents, who are interested in such work and they will write to their county agent or to the State College an effort will be made by the Extension Department to help them organize and carry on any project they may decide is most needed in their community.

MARY B. RICHARDSON.

## THE 1920 FAMILY BUDGET

First comes the rent—32 per cent;
Your groceries are 20;
Your clothing bill is small, but still,
It's 6 per cent—that's plenty.

Insurance 4, cigars 2 more,
Amusements come to 7;
A tire, 15; 12, gasoline;
That's 98—Great Heaven!

It cost you 2 to have the flu,
And that all went for dope;
You owe the nurse, and what is worse,
The doc, too, lives in hope.

The butcher looks upon his books
And forthwith mails a dun;
The drygoods man your bill doth scan,
And so on, one by one.

Your wages spent—the last red cent;
In debt, and there you are.
Man toils and slaves but never saves;
He just MUST keep a car.
—E. D. Foster.

In Colfax county the women working with the home demonstration agent have been busy this month making fireless cookers, iceless refrigerators, cook stove driers, and dress forms.

This wise old Quaker's rule for shopping is good for everyone: Know what thee wisheth to buy, what use thee will make of it, and how much thee should spend for it.

# BOYS *and* GIRLS' CLUBS

## MRS. KOGER RESIGNS.

Mrs. Elizabeth C. Koger, who has long been identified with Extension work in New Mexico, resigned August 1st to take the position as supervisor of vocational work in Home Economics in the Dona Ana county schools.

Mrs. Koger is a graduate of the State College, having specialized in Home Economics. She first became connected with the Extension service in September of 1917 as assistant demonstrator in Home Economics. January 1st, 1918, Mrs. Koger became assistant State Club leader in charge of girls' club work, which position she has held until the date of her resignation. Practically every commnity in the state where club work has been done, knows of Mrs. Koger and her work. Her words of encouragement and commendation to club workers have aroused in literally thousands of children, an interest in the work of the home and farm and an appreciation of the dignity of labor.

The best wishes of the entire Extension staff follow her to her new field of work.

## NEW MEXICO TO SEND STOCK JUDGING AND DEMONSTRATION TEAMS TO NATIONAL WESTERN STOCK SHOW

The Western Stock Show Association has decided to hold an interstate contest at the next annual National Stock Show to be held in Denver January 15th to 22nd, 1921. This contest will be limited to the states of Colorado, Wyoming, Montana and New Mexico, and each of these states are invited to send a boys' and girls' club stock judging team and a boys' and girls' club demonstration team selected from each state, at a state contest, each team to consist of three members.

This will be the first time that the New Mexico boys and girls have competed in interstate club contests, and it is hoped that the girls' demonstration team and the boys' stock judging team, which represent our state, will not only be the best teams that New Mexico can select, but that they will also come away from Denver with high honors.

The National Western Stock Show Association has asked the boys' and girls' teams to be sent to Denver. To insure a good representation from the states, they have agreed to pay all transportation of these six boys and girls, and to entertain them royally while they are in Denver. This is an offer which seems to give the boys and girls an opportunity to attend one of the best stock shows in the west. The trip itself will be of great educational value to the boys and girls, in being at the show with the hundreds of other boys and girls from Colorado and adjoining states, and will give them a good training in stock judging and demonstration work.

A state contest in New Mexico will be held some time in the future, considerably previous to the Colorado interstate contest, at which a boys' and girls' club stock judging team and a boys' and girls' club demonstration team will be selected to represent our state in Colorado.

The members of the boys and girls' pig club of Curry county have received six pure-bred Poland China gilts from the State College and are expecting a shipment of fifteen more from Texas.

Before the war, Uncle Sam's folk's drank three billion bottles of soft drinks a year, about thirty to every man, woman and child. Why not use milk drinks?

The color and flavor of foods should not clash. One is bound to receive something of a jolt when he finds a bright green jelly is flavored with cherry.

Death to the hen convicted of profiteering.

# The Demonstrational Value of Boys' and Girls' Club Work

BOYS' and girls' club work has been conducted in New Mexico since 1912, and during this period of years, a great deal has been written and published in regard to the value of boys' and girls' club work to the club members, and to the communities in which the work is being conducted.

A great deal has been published showing the net profit, the value in dollars and cents, of the work carried on by the boys and girls. A great many exceptional records have been published showing excellent profits made by boys who have raised registered livestock; showing large yields of corn, beans, and other crops produced by boys and girls in crop club work; and a few lines here and there relative to the canning club work and other lines of home economics work which is being done by girls.

This work has all been good, but there seems at the present time one thing which has been very much overlooked, and that is: What has been and what is the demonstrational value of this so-called boys' and girls' club work? Is the object of our work merely to have our boys and girls raise a pig, a garden, an acre of corn, or a few potatoes, for the few dollars' profit which they can make out of it; or is it the far-reaching value of the work as it trains and develops the boy in the proper methods and practices of agriculture, and the girls in home economics, and the value of this training and demonstration upon the men and women in the farming communities of our state?

The following story, which is one of many, will give very decidedly what is meant by the demonstrational value of club work. Three years ago, a certain family with three children, living in a county in the eastern part of New Mexico, had on that farm nothing but scrub pigs, a mongrel flock of poultry, and one or two scrub dairy cows. Three years ago, the oldest boy in this family joined the boys' and girls' pig club and purchased a young registered gilt. At the end of the season's work, the boy had made an excellent showing and had won a prize at the county fair. The following year, another member of the family secured a registered pig and also a high grade calf which had been shipped in. Both of these members continued in club work thruout the season and made good profits from their work. At the present time there are three members of the family, two boys and one girl, raising registered gilts and two Holstein calves shipped into the county from Wisconsin. These boys and girl have all made money from club work; they have a good start in the livestock business; but in addition to this, the one outstanding thing which has resulted from the work done by them is the demonstration conducted, and its effect upon the older members of the family and the people in the community. Whereas, on this farm three years ago, there were nothing but scrub pigs, a mongrel flock of poultry, and a few scrub dairy cows, there are at the present time a flock of standard bred poultry, a herd of pure-bred registered pigs, and a dairy herd consisting of high grade cows which have been shipped in, and are being improved by the use of a better sire.

We know that they boys and girls were the means of affecting this change in livestock on this one place. It is hard, indeed, to estimate the value of this demonstration to the other people of that one community. It is hard to tell whether others have followed the example of this family or not; but if in every family where there are boys and girls carrying on club demonstration work, this same change could be made, there is no doubt as to its far-reaching value.

The enrollment for this year in boys' and girls' demonstration work shows that there are 2,069 members actually working on the farms or in the rural homes of the state, on some definite piece of agricultural or home demonstration work.

These same boys and girls in livestock improvement alone have brought into the state the following registered and grade stock, at a total cost of $18,000: 475 pigs (all registered bred gilts or young registered pigs from eight to ten weeks of age); 177 calves (30 registered bred heifers costing the boys and girls over $200 each, and the others high grade calves shipped in from outside the state, ranging from ten weeks to eight months of age); 8,000 standard bred chickens; 982 canning, gardening, cooking, and sewing demonstrators. (These boys and girls are learning something of food conservation and home improvement work. Meal planning and remodeling of old clothes are a special part of this work).

Every boy and girl is demonstrating some phase of agriculture and home making and as a result of this, it is hoped that better practices will result. The money loaned to the members for the purchase of their stock has been secured from banks and other agencies, on twelve months' notes at a uniform rate of interest. The boys and girls will pay off these notes at the end of the year by selling some of the crops produced by them for feed and seed.

As a result of the above demonstration work, the boys and girls will have received a very important business training, training in agricultural and home practices, and an inspiration and love for farm life and its activities. Thru the two ships under whose flags they have been sailing this year, namely "OWNERSHIP" and "PARTNERSHIP", they will step later into that greater "CITIZENSHIP" of life, the better able to captain it successfully.

# FARM BUREAU

## WHAT THE COMMUNITY PROJECT LEADER CAN DO

1. Be an optimist.
2. Help develop community program of work.
3. Announce and make local arrangements for meetings.
4. Preside at community meetings.
5. Arrange for such local demonstrations as apply to the community project concerned.
6. Assist in planning field demonstrations.
7. Visit demonstrators and record progress of each.
8. Provide necessary demonstration material.
9. Assist in arranging for excursions, picnics, and demonstration tours.
10. Aid county extension workers in securing definite data on results of demonstrations.
11. Serve as long-period demonstrators.
12. Report on project at community meetings.
13. Conduct surveys taken by farm bureau.
14. Collect and disseminate farm bureau news notes and timely information.
15. Pool orders and sales.
16. Report material for Farm Bureau News exchange columns.
17. Collect and disseminate information as to sources of good seed and of desirable breeding stock.
18. Assist in arranging community calendar of farm bureau work.
19. Secure material for fair exhibits.
20. Spread farm bureau principles.
21. Acquaint farm people with farm bureau program of work and secure members.
22. Keep timely information on hand for use of community.
23. Report to county project leaders and county agents.
24. Be the best booster in the community for the project and the "crank that makes it go."

C. B. SMITH.

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The women of Union County Farm Bureau, under the direction of the home demonstration agent and the county project leader, Mrs. Criser, are doing some good work in gardening and canning. It was part of the plan to get certain ones to plant vegetables that had not been raised in that locality before, and keep a record of results with the purpose of getting a greater variety of vegetables for use in the homes of the county. The plan is working very successfully and a good report on the new vegetables that can be raised in that locality, will be ready at the close of the season.

At present the women are busy canning vegetables for winter use, thus doing their part to combat the high cost of living.

One home has piped water from the outside tank into the kitchen. The husband said the pipe was lying around in the way, and the new sink with the drain and other expenses, was only a little over ten dollars.

Think what the steps that might be saved means to the tired housewife to have water at hand instead of having to travel 30 or 40 feet and carry a heavy pail of water and then in a few hours carry it all out again.

## WHY BOYS AND GIRLS LEAVE THE FARM

Boys and girls leave the farm because of poor schools, muddy roads, lack of personal interest in the farm plan and better home surroundings.

Boys and girls would gladly stay on the farm if the conditions were changed. Home surroundings may be bettered by adding a home lighting plant, power equipment for doing the drudgery, and in many other ways the farm home can be made as attractive as the city or town home.

With better schools and teachers who are interested in farm life, one big reason for leaving the farm will be eliminated. The rural and consolidated schools must be equipped to compare with the town and city schools. Teachers who are familiar with farm life must be employed, those who have a real interest in the country and farm surroundings. Country boys and girls are entitled to just as fine homes, schools and surroundings as those in the city.

Leadership for boys' and girls' club work must be secured. With club work, better schools and roads and a socialized neighborhood, boys and girls will be satisfied on the farm. There will be something outside of the farm work to hold them. All work and no play, lack of social advantages and poor schools is the answer to why the boy or girl refuses to stay on the farm any longer.

The Farm Bureau has a wonderful opportunity of remedying these conditions. Farm Bureau members are school directors and have the authority to secure better school equipment, build modern school buildings and select teachers who are interested in rural life. The Farm Bureau has it in its power to arrange for leadership for club work and now that crops and livestock are bringing better prices it will be possible to make the farm home and surroundings as attractive as the city home.

Let us give our boys and girls better schools, better roads, boys' and girls' club work with leadership and personal interest in the community and they will remain on the farm from choice. All these things are possible. — From "Boys' and Girls' Farm Leader."

The Dona Ana County Farm Bureau women working with the home demonstration agent have, during the last month, equipped several of their homes with running water and bath tubs. They are also doing a good work in poultry, the work being carried on under the direction of the poultry specialist at the State College. These women believe in poultry as a profit-making industry that will help build convenient homes.

The sewing machine refuses to be hurried. If you try to pull the material as it is being stitched, a stretched, tight and ugly seam is almost sure to result.

Because of bad floors don't hesitate about discarding carpets for the more sanitary and easily cleaned rugs. Some crack filler and a little paint and varnish will do wonders.

A dairyman is known by the sire he keeps.

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# THE NEW MEXICO FARM COURIER

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Purebred Hereford Bulls, Owned by DeGraftenreid and Sweifel,
Fort Sumner, N. M.

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# THE NEW MEXICO FARM COURIER

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# EDITORIALS

## TRAINING RECEIVED ON THE FARM.

It is interesting to note that both our major presidential candidates were reared on a farm. In the eyes of a great many people this fact will add to their esteem of the men. There seems to be a sort of tradition in America that most great men are born on the farm, and it is no doubt true that a great many of our greatest Americans were reared in the open country.

Yet we frequently hear of farmers moving to town to give their children the advantages of the city schools. And it is true, that as a usual thing, the schools of the city are much superior to those of the country. The city children also have an opportunity to learn many things by their contact with other people that farm boys and girls do not have an opportunity to learn. But in spite of these facts, there is a certain training that the boy or girl receives on the farm that often makes him more than a match for his city cousin with much better educational opportunities.

The country boy usually either works accompanied by his father or he works alone. With the right kind of a father, he learns much by such a contact, and when he works alone he learns much in the way of self-reliance. If he should break a section out of his sickle bar while mowing hay a mile from the house, he soon learns that with the aid of a hammer and a punch and using the mower wheel as an anvil, he can soon replace it with another. So, learning step by step, he soon learns that he is fully able to take care of himself, and this is one of the lessons that needs to be learned before one can get very far in the world.

It is unfortunate that in the past so many of our ambitious boys have left the farm in order to demonstrate their greatness. It is often felt that the farm does not offer an opportunity for unusual ability. And it is probably true that the farm has not offered the opportunity to build up great organizations and reap huge fortunes that the city has. Yet there has been, and will be even more so in the future, plenty of opportunity for those of unusual ability on the farm. We need more constructive livestock breeders and more efficient farmers. Some day we may elect a president who not only was reared on a farm, but who is actually a farmer.

## QUALITY PAYS.

In another section of the Farm Courier the statement is made that New Mexico pinto beans are being sold in car lots by the New Mexico Bean Growers' Association at 25 cents per hundred higher than the market quotation on hand picked navy beans. This is not the result of an accident, but is due to the very deliberate determination of the association to put out beans that in quality are as good or better than the specified grade.

The Bean Growers' Association is carefully cleaning and grading all beans that are placed on the market. Wholesale buyers are beginning to realize that when they buy beans of this association they are of the grade and quality specified. When they have once realized this, they are willing to pay a premium to secure such beans.

This is not only true of beans, but also true of practically all other commodities. Both wholesale and retail dealers are willing to pay more for any product if they know exactly what they are getting and that it is in first class shape. There is nothing mysterious about this. It costs them less to handle a product of this kind and it can be sold to the consumer at a higher price.

When products are not properly graded and standardized before leaving the hands of the producer, it is usually necessary to do so some time before they reach the consumer. But it is usually more cheaply done before they are sold by the producer and by doing this he can gain the profit that the middleman would reap by doing it.

## NEW MEXICO FAIRS.

Dona Ana County Fair, Las Cruces, N. M., Sept. 22-25.

Nara Visa Community Fair, Nara Visa, N. M., Sept. 24-25.

Roosevelt County Fair, Portales, N. M., Sept. 30, Oct. 1-2.

San Jon Community Fair, San Jon, N. M., Oct. 1-2.

Farmers' Harvest Jubilee, Wagon Mound, N. M., Oct. 1-2.

Otero County Farm Bureau Fair and Exhibit, Alamogordo, N. M., Oct. 1-2.

McKinley County Fair, Gallup, N. M., Oct. 1-3.

Northern New Mexico Fair, Raton, N. M., Oct. 5-7.

New Mexico Harvest Festival, Albuquerque, Oct. 7-9.

Luna County Fair, Deming, N. M., Oct. 13-15.

Union County Fair, Clayton, N. M., Oct. 13-15.

Curry County Fair and District Club Fair, Clovis, N. M., Oct. 14-16.

Wheat Belt Fair, Roy, N. M., Oct. 19-21.

San Juan County Farm Bureau Corn Show, Aztec, N. M., Dec. 7.

Grant County Fair, Silver City, N. M.

## CHOOSE YOUR IDEAL.

It is not often that we get very far unless we know where we are going. If we are breeders of livestock without any idea of the type of livestock that we desire to breed we probably always will be breeders of just livestock. But if we set our goal at a definite type of livestock that we desire to breed, and our goal is high enough and we are persistant enough, we will be able to breed the type of livestock that really will be worth while.

The fair season is an excellent time to choose an ideal. The best livestock of your community, county or district will be at your local fair. If you are fortunate enough to attend such shows as the American Royal at Kansas City, or the International at Chicago, you will see some of the best livestock of the whole country.

Fairs are not held, or at least should not be, for the simple reason of showing you a good time. It is a good place to study and think. Take plenty of time to look over the exhibits carefully, find out why the firsts got the firsts, or why your exhibit was not placed any higher than it was, and then go home with the determination to do better next year.

# Some Advantages of Fall Plowing

THE TIME when plowing should be done varies with climate, crop and soil conditions. In dry farming regions plowing should usually follow the preceding crop as soon as possible. The chief object being to conserve moisture. In regions where much precipitation comes during the winter a loose open condition of surface soil is desirable during that season. If the precipitation comes in the form of snow, the surface should be rough so as to prevent drifting in order that resultant water may be uniformly absorbed by the soil. Another reason for maintaining a riged surface is to reduce erosion by the high wind which frequently occur in the dry farming regions. This loose and rough condition of the surface soil can be maintained by proper fall plowing.

In some our irrigated valleys in New Mexico the time of plowing depends to a certain extent upon the kind of crop. For fall grains the plowing can be done either in the late summer or the early fall. For spring crops plowing may be done in the fall, winter or spring as far as the crop is concerned. It is usually done at the most convenient time as far as other farm work is concerned. This should be in the fall or winter, in order that the crops may be seeded early in the spring.

Heavy clay soils are usually greatly benefited by being plowed in the fall and allowed to stand over winter in this condition. The effects of freezing and thawing will put them in a better physical condition and they will be easier to work. This is especially so if such soils are well supplied with organic matter. If on the other hand such soils are deficient in this constituent freezing and thawing may have the opposite effect and cause them to run together instead of producing the desired granulation.

The advantages of fall plowing may be briefly summarized as follows: first, the work may be done at the time of the year when other work is less pressing; second, the organic matter turned under has time to partly decay before the crop is put in, thus insuring sufficient available plant food in the soil at the time of seeding; third, many insects and their eggs are destroyed by disturbing them late in the fall; fourth, the improvement of the tilth of the soil by exposing it to the weather agencies during the winter.

C. A. THOMPSON.

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Mirrors are an aid to something besides vanity. Placed in gloomy rooms or dark corners so as to reflect the light from some window or door, they will do wonders toward brightening the home.

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Public health is the foundation on which repose the happiness of the people and the power of a country. The care of public health is the first duty of a statesman.—Disraeli.

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A woman in Colfax county, who has placed running water in her home, reports that it is impossible to estimate the number of steps saved by this convenience.

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A good growth of weeds may serve a useful purpose if turned under before the plants go to seed.

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Too many pictures spoil the room. One medium sized picture to a wall space is enough.

# Bean Growers Improving Handling Facilities in Estancia Valley

FROM end to end of the great Estancia valley, the song of the saw and the echo of the hammer are to be heard at this time. The hammer is not of the variety usually employed by the "knocker" but that of the artisan in his activities incident to great warehouse building for the better and more economical handling and storing of the immense pinto bean crop of the valley.

At Mountainair a wood-iron warehouse 70x145 feet in size is well under way and when completed will comfortably accommodate 125 to 150 carloads of cleaned, bagged beans besides housing the machinery for cleaning, etc.

At Cedarvale, at the extreme southern end of the valley, a small warehouse, sufficient to meet the present needs of their newly organized local, is being constructed and first-class cleaning facilities provided.

At the opposite end of the valley, the growers in the Stanley and White Lakes communities have united and a commodious and substantial warehouse is being built. A few miles south, at Moriarty, a splendid structure is being erected to take the place of the several temporary storage houses used by the local last season.

All these new warehouses will be completed and ready to receive, clean and store the beans of members, which are now being harvested.

A very considerable increase in acreage is shown in the 1920 crop over that of any previous year, a result of greater stability of the industry which is quite manifest and no doubt largely due to a factor which should go to the heart of every pinto bean grower in the state.

For years past, the pinto bean was put on the market in this state in such condition of quality that made it necessary to sell them at a figure considerably below the level of other varieties of beans produced in other states and with which they had to compete. The spread of prices ranged from one and a half to three cents per pound between choice hand picked Michigan navies, California pinks, and New Mexico pintos.

It is indeed gratifying at this time to note that New Mexico pintos are being sold at this writing, by the association, in carlots, to the wholesale trade, at 25 cents per hundred pounds above quotations for first grade navies. This is unquestionably due, in a very large measure, to the change of attitude on the part of the consuming public, brought about by the insistence of the association officials that all shipments shall be equal to or better than grade requirements.

The future of the pinto bean industry in New Mexico will become doubly assured when all commercial growers have identified themselves actively with the association.

C. A. McNABB.

# Luna County Farm and Livestock Bureau Brings Producer and Consumer Closer Together

THE Deming Cooperative Exchange, one of the 1920 projects of the Luna County Farm and Livestock Bureaus, began active life on June 9.

The exchange has two departments, one a wholesale produce department and the other a retail grocery department. The 200 members of the cooperative exchange are about equally divided between producers who wish to get more money for their produce, and the consumers who wish to get more produce for their money. Both parties are of the opinion that the exchange will satisfy their desires.

### Conditions Bringing About the Organization.

The farmers and particularly the truck growers of Luna county were confronted with the usual difficulties in marketing their produce. For a number of years they had tried to market their produce thru some sort of an organization, but none was wholly successful. The merchants of Deming bought what they could use, but this was little, for the reason that growers did not prepare their products in marketable condition nor was the supply reliable enough to suit the merchant. Also, when a certain commodity was in season, everybody had it, and since there was no organized effort to collect, grade, pack and ship the surplus to other markets where it was in demand, the home market became glutted and the price demoralized.

When coming to town with a load of produce, the farmer found the markets overstocked, the prices lower than he could afford to take, and he was compelled to sell for what he could and went home disgruntled,—disgruntled not only for the low prices received for his produce, but also because of the high prices he was compelled to pay for his groceries and other necessities.

During the war, when the cantonment was in Deming, nineteen groceries sprang up in the town. At that time, conditions justified their existence. With the town reduced to its normal population, about this same number of stores were competing for the trade of the town, by conducting expensive soliciting and delivery systems, and all were giving credit. Any customer who wants a 15-cent box of crackers 15 minutes before dinner, may be thus served. This condition necessarily adds to the cost of the groceries and the farmers and others who carry their groceries home must help pay the bill for those who want this expensive service. Consequently the producers who had difficulty in finding a satisfactory market and who carry their groceries home, and many others who are glad to carry their groceries on condition that a discount be made for serving themselves, got together to create a place of business that harmonized with their ideals of greater economy and efficiency.

### How It Was Done.

At the January meeting of the Farm Bureau Executive Committee, a committee consisting of Mr. J. C. Ingram, a prominent truck grower, Mr. H. B. Barto and County Agent Heyman was appointed, with power to enlarge the committee and to work out plans for a cooperative business. The committee thus appointed asked Mr. Hugh Ramsey, the Farm Bureau president, Mayor R. F. Hamilton, Dr. F. D. Vickers and Mr. S. J. Smith, formerly a member of the state legislature, to work on the committee.

After several conferences, the committee decided on the Rochdale plan for governing cooperative societies. The principles of this plan are:

1. All members are equal.
2. One person can hold but one membership.
3. Goods bought and sold for cash.
4. No voting by proxy; one person, one vote.
5. Goods sold at prevailing rates; no cutting of prices.
6. Savings returned to patrons in proportion to their purchases.
7. Employes get fixed salary and are placed under bonds.
8. Pure goods are handled and full weight and measure given.

The fundamental idea involved in the above principles is that all goods are for use and not for speculation and that whatever profits, or more correctly, savings, accrue in passing these goods from the producer to the consumer shall be returned to them. Thus, by the producer and consumer coming in contact with each other in serving their needs, the speculation in necessities, one of the important factors in the H. C. of L., is entirely eliminated.

After adopting these principles, the committee held meetings in all the communities of the county, presenting their plan and taking subscriptions for stock at $10 per share, which would be payable on demand as soon as $5,000 was subscribed to start the business. The committee also held a meeting in Deming for those living in town who wished to cooperate with the growers in this plan. The result in this campaign showed that there were as many city folks as farmers who wished to cooperate; in all, more than 40 occupations and professions were represented in the membership.

At the general meeting of these subscribers, five incorporators were elected and held over as a board of directors until the first annual meeting. On this board was elected Mr. J. C. Ingram, a prominent truck grower, Mr. H. Ramsey, the farm bureau president, Mr. M. V. Portwood, who represented the stockmen, Mr. A. C. Elliott, representing the railroad employes, and Prof. J. F. Doderer, formerly city school superintendent, to represent the professional people. To this board were committed all the preliminaries for incorporation and the launching of the business.

### How the Deming Cooperative Exchange Works.

Operation began on June 9th in a new, three-room, brick building with a 30x50 foot basement. The grocery department occupies two rooms and a part of the basement; and the produce department occupies the other room and the remainder of the basement.

Now when a farmer comes to town with a load of peas, beans, beets, carrots, spuds, onions, or what not, in any quantity, he finds a ready market. The cooperative exchange sees to it that these products are properly prepared for market, and what is not sold to local merchants is shipped to the nearby mining towns in the adjoining counties.

The produce department sells to the grocery department for the same price that it does to any of the merchants, and the grocery department retails these products at prevailing prices. The produce department virtually fixes both the wholesale and retail price, consistent however, with the general price of commodities handled, thus becoming a stabilizer of prices which is beneficial to both producers and consumers.

The grocery department has marked its shelf prices on a level with the prices of the other grocers in town, but it makes the following differences: It sells for cash only; it sells a coupon book for those who wish to pay cash in advance at a 2½ percent discount; another 5 percent discount is made to those who wish to carry their own groceries home; it does no soliciting and confines its delivery orders to certain hours, 9 a. m. to 12 m. and 3 p. m. to 5 p. m. Delivery orders must be in when the truck starts or else they are omitted until the next delivery. In this manner the cost of delivery will be kept down to a cost of 5 percent, the same as the amount of discount given to those who carry their own groceries. And last of all the savings, which the private dealer calls profits, which accrue after all expenses are paid, and a certain percentage set aside for education, depreciation and a surplus fund, are returned to patrons in proportion to the amount of their purchases. The stockholders get only the local rate of interest on capital invested.

### How It Affects the Local Merchant.

When the cooperative movement was first publicly proposed, the merchants did not appear unfriendly. They were curious as to how the new store, if started, would affect their own business. By some the movement was ridiculed by such remarks as "It will never start," "They can't raise the money," "A bunch of farmers could never run a business like that," "If it does start, it will not run more than 90 days," and once it was called a "Bolshevik mercantile company."

While these remarks were good propaganda for those opposed to the institution and at the same time keeping a great many of the faint-hearted ones from joining, it did not in the least discouraged those promoting the proposition.

However, the promoters had no desire to put any other store out of business. They did not intend to add another store to the many already in business. They supposed that they could run their own business more efficiently and economically and therefore, more satisfactorily than under the present system and for this purpose they organized. And when they started they purchased the stock of one of the half-dozen stores offered them for sale. They did not cut prices as other grocers thought they would; and they tried in every way to cooperate with the other merchants, particularly by supplying them with fresh produce from the produce department. This department of the exchange is endeavoring to supply all the vegetables and fruit that the merchants need and when they want it. The products that are not grown locally are shipped in by the exchange so that a constant supply is on hand. The local grocers are appreciating this feature of the exchange and now nearly all make daily purchases from this department to supply their retail needs. And they get a much better service from the exchange than they could possibly get by dealing directly with the farmer who comes to town when it is most convenient for him to come.

Now, while the local grocer may not feel altogether enthusiastic over the cooperative exchange which has caused some shifting about of patrons, he is not antagonistic, since his business has not been very much decreased. What the ultimate effect will be remains to be seen.

### How It Affects the Town.

When the cooperative exchange was first proposed, some of the old timers feared that it might take the town by storm. They thought that it might put some of their rentable property out of business. One of the local editors was of the opinion that it would kill the town, especially such a town as Deming, "where," as he said, "we are all living on each other." However, if a number of the present distributors of necessities could be relieved from their present duties in order that they might become "honest-to-goodness" producers, the cooperative exchange would be a national as well as local asset.

But the writer thinks that he sees signs of helpfulness to the town. Already for a distance of 40 miles from Deming and entirely outside the limits of the county in an extensive farming and fruit growing district, the farmers are looking to the newly organized cooperative exchange as an outlet for their products. Many of these farmers have already become members, and when they bring their products to Deming and sell for cash or exchange for other commodities, they will trade at many of the other business houses and thereby the town will be increasingly prosperous.

This is well illustrated by the purchases and sales of the produce department for the first 46 days of actual operation. During this time, this department purchased from the farmers truck, butter and eggs amounting to $3,483. The truck came in small quantities and consisted of green beans, green peas, green onions, dry onions, beets, carrots, and Irish potatoes. Most of these products were shipped out of Deming as surplus, which, if there had been no organized effort to collect, grade, pack and ship, would have remained to glut and demoralize the price on the home market. The above purchases of $3,483 therefore, represent a net income to the town and community for the 46 days of operation, but which would have been dissipated had it not been for the organized effort of the cooperative exchange to dispose of these products for the growers. This benefits the non-member as well as the member.

### Warning.

In conclusion, let us state that the forming of cooperative organization as described above is no light task. The committee on plans and the present board of directors have run against many snags, largely because people are generally unfamiliar with true cooperative principles. Also because many enter such organizations eager for immediate pecuniary gain, rather than for its ultimate effect as part of a wide movement to bring a more efficient system of trading.

If the present board of directors of the Deming Cooperative Exchange were asked by others contemplating the forming of a similar organization as to the essentials to be insisted upon before definitely launching a cooperative society, they would say: First, see to it that all of your members are fully familiar with the principles of cooperation and in sympathy with its purpose, and ready to pledge their loyalty, and willing to submerge an occasional selfish interest for the benefit of the group. Second, see to it that all subscribed stock is paid before starting the business. These are some of the weak points in this organization that are gradually being overcome.

A. C. HEYMAN,
County Agent, Luna County.

# HOME ECONOMICS

## Now is the Time to Study Agriculture and Home Economics

AT PRESENT there is an unusual demand for workers well trained in agriculture and home economics. Great difficulty is being experienced by the colleges and public schools in securing teachers in these lines, and college graduates for investigational and extension work in agriculture are just as scarce. Salaries of from $2,100 to $2,700 for young men, within a year after graduation, are not unusual, and in some cases suitable workers cannot be secured at these figures. The supply of graduates from law or literary courses may become greater than the demand after a few years, but there is little likelihood that this will be true with respect to those who complete courses in agriculture or home economics. New Mexico is obliged continually to send to other states for teachers, investigators and extension workers in these subjects, and it would be much more advantageous to the state if young men and women who are familiar with conditions in this part of the country would prepare themselves for some of these positions. The need for agricultural men who understand Spanish is especially urgent.

If New Mexico is to progress as it should, it is absolutely necessary that more of the boys and girls of the state should secure scientific, as well as practical training along these lines, and the best place to secure the training is in New Mexico, and not in the east or north, where conditions are so different that much of the teaching will not apply to the southwest, without material modification. The expense of securing a college education in either agriculture or home economics is still very low, and an industrious boy or girl often has a chance to earn a considerable part of the amount, if necessary.

It should be understood that by taking such a course the student does not sacrifice all cultural studies, but it is always the aim to combine the cultural and the practical.

C. P. WILSON.

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### THE PAPER DRESS FORM.

The use of the dress form is proving a great help to the women of the Farm Bureaus of New Mexico. These forms are made by fitting a high neck ribbed gauze vest over the figure, then pasting strips of gummed sealing paper, overlapping in bandage fashion, over the figure. It is then cut down front and back, remove from the fig-

Front of Dress Form

ure and put together by pasting small strips of paper up front and back as shown in the cut. The result is a firm, substantial form, the exact duplicate of the figure on which it is made.

This form is long enough so that the measure of the hips is given. A heavy pasteboard is filled in at the base and the whole is completed for about $1.00. The women desiring forms are getting together in groups of five and after one demonstration by the home demonstration agent, they are able to make forms for each other, the group working together for five consecutive meetings. At each meeting a form is made and thus at the close of the fifth meeting everyone in the group has a form finished.

The completed form may be placed on a stool or a home made standard of the required height and the dresses and the other garments are made over the form with no tiresome standing for fittings. The women who have these forms are loud in their praises. One woman said her daughter never could see how a pattern went together until she had her dress form, then it was all clear to her. Many attractive dresses and other garments are being made over these forms by the women of the counties, where they have been demonstrated.

If the women in counties where there are no home demonstration agents, desire this aid in dressmaking, the Extension Department is prepared to give demonstrations on the dress form.

MARY B. RICHARDSON.

# FARM BUREAU

## J. W. KNORR GOES TO WASHINGTON STATE

J. W. Knorr, county agent leader for the past year, and who has been connected with the Extension service in one capacity or another for the past five years, has resigned in order that he might accept the position as associated county agent leader in the state of Washington. In his new position Mr. Knorr will have an unusual opportunity and will devote most of his time to farm bureau organization work in that state.

That Mr. Knorr should have been induced to leave the state is not only regretted by his associates in Extension work, but by the host of friends that he has made thruout the state. All are glad, however, to see him advance to a better position.

Mr. Knorr graduated from the New Mexico Agricultural College in 1913 and after spending several years teaching in Colorado and doing experimental work for the United States Department of Agriculture, he returned to New Mexico early in 1915 to become associated with the Extension service soon after its organization. He first served as county agent of Eddy county, later became assistant county agent leader, and then county agent leader.

Mr. Knorr's singular piece of work while in the state has been the organization of farm bureaus thruout the state. Eighteen counties now have farm bureaus actively at work, and a State Farm and Livestock Bureau was organized last January. Mr. Knorr's success in this organization work has attracted attention thruout the entire west and it is for this reason that he has been called into the bigger field. He is a man of unusual force and ability, has well deserved all the promotions that he has received, and can leave the state feeling that his five years of service have been productive of results.

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Two women in Union county together own a large pressure canner and up to date have canned about 200 cans of corn besides beans, greens, beets, pepper, etc. These families will have a diet that will not be without green vegetables during the winter months.

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Some questions about food may be debatable, but the value of milk in the diet is not one of them.

# "Who's Who" Among the Farm Bureau Presidents

### CARL MUELLER
### of Roosevelt County.

Carl Mueller, president of the Roosevelt County Farm Bureau is a native of Germany, but came to this country alone when he was a mere boy. He settled in Wisconsin, first working for wages and later began farming and dairying for himself. While there he became director of a cooperative cheese factory and was associated with both a cooperative creamery and a cooperative store.

CARL MUELLER
of Roosevelt County.

Mr. Mueller came to Roosevelt county eight years ago and soon afterwards began raising sweet potatoes and to do general farming. He was one of the organizers of the Portales Valley Sweet Potato Growers' association and became one of its directors and manager of the storage house. Here he shoved his public spirit by neglecting his own work in order to make the association a success. He is a thoro believer in purebred livestock, and keeps nothing but purebreds on his farm. His white and silver-laced Wyandottes have won many prizes at fairs in this and other states. The past year he has made an extensive trip thru the north buying purebred Guernsey cattle and other livestock. He can well be classed among the most progressive farmers in the state.

### MAX L. KAHLER
### of Sierra County.

Mr. Max L. Kahler has been president of the Sierra County Farm Bureau ever since its organization early in 1919. He has not only been active in the farm bureau movement, but is also president of the Palomas Valley Irrigation district, is vice president of the First National Bank of Hot Springs, and has at various times held different county offices in the county.

Mr. Kahler came to Sierra county in 1881, so has earned the right to be considered one of the "old timers." He lives in the fertile Palomas valley where he operates a large, diversified farm with signal success. He is a firm believer in diversification, raises fine draft horses and Hereford cattle and raises crops that never fail to grow on his farm. He willingly gives his time to any activity that will benefit the people of the community, and because of his ability and generosity in this respect, has won the respect and friendship of a great host of his fellow citizens.

### R. B. THOMPSON LEAVES NEW MEXICO

Prof R. B. Thompson of the poultry department, who has been connected with the New Mexico Agricultural College since 1916 and who has devoted part of his time to extension work, has resigned in order that he might accept the position as head of the poultry department of the University of Arizona.

Professor Thompson is well known by many farm bureau members because of the work he has done thruout the state in giving poultry culling demonstrations. He started the first New Mexico egg-laying contest last fall and has done much to distribute better poultry thruout the state. He has been one of the live wires of the institution and during his four years' stay built up one of the best poultry departments in this section of the country.

# Some Farm Bureau Misconceptions

THE writer has had an opportunity to visit practically every nook and corner of New Mexico in connection with the development of farm bureaus. The farmer and stockman have many ideas concerning the purpose of the farm bureau and these are certainly at variance with each other.

**American Federation Not a Panacea.**

There are many who believe that the America Farm Bureau Federation will be a panacea for all the agricultural ailments of America. Many believe that there will be no need for county or state bureaus now that the American Federation has come into existence. Just what the American Federation can and will do is problematical at this time. When its program of work is finally developed it will be national in character and its problems will be difficult and will require considerable time, years in fact, for their proper solution. There is no question but what there is a great need for the American Federation and it will do big things for the farmer and stockman but these will not be accomplished in a fortnight.

The State Farm Bureau will do more within the immediate future for the farmer and stockman than the American Federation because its work will be confined to a single state and will cope with problems which will not come within the scope of the national organization. Such problems as taxation and legislation affecting the producer, the expenditures of road moneys, etc., should be carefully studied by the state federation.

**County Farm Bureau Not Understood.**

For the next few years the county farm bureau will be of greater help than the State and American Farm Bureau Federations in the immediate solution of problems confronting the farmer and stockman. The effectiveness of the county organization will be in direct proportion to the development of the bureau in the several communities.

It is not the purpose of this article to belittle the State and National Farm Bureau Federations, but rather to make clear their positions in the farm bureau chain of development, and just how these larger organizations are going to be of real help and just when, as well.

In a state like New Mexico where we have the extremes of heat, cold, rainfall, altitude, latitude and longitude together with the many isolated communities, all within a single county, it can plainly be seen that all agricultural improvement must start within a community. The best variety of corn, the best type of silo or mutual hail insurance or some phase of livestock improvement or any piece of work must first start where there is a community interest. As various pieces of work are taken up in a number of communities in a county this community interest grows and becomes county wide in character. In the community plan of work the men and women most interested in the development of their community will naturally come to the front and take the lead in the various jobs to be done. From the community leadership thus developed will be found the nucleus for the leadership necessary to carry out work which is county-wide in character. County-wide problems will be developed by the county farm bureau after a careful study of the various problems of the communities. In this way the program will be attractive because it is built from the ground up, and will appeal to the people.

After the people of a community learn to work together and come to recognize common problems and go to work to solve them there will be found plenty of jobs for the county farm bureaus to work on. When the county organizations reach this point in their development they will find plenty for the state federations to do. When the state federations can solve state problems in a satisfactory manner then will they look to the American Farm Bureau Federation for help on national problems.

### Farm Bureau Has Developed Too Rapidly.

The whole farm bureau scheme has developed too rapidly. . This does not mean that a lot of this work must be undone. But, it does mean that greater emphasis must be placed upon the community work. The community is the foundation for the whole scheme. We are at present weak in this regard. This phase of the work is perhaps a little tedious. People are too anxious to tackle big jobs before they have learned how to work together on items vital to their own community. The development of community programs of work is not a bit spectacular. It is entirely devoid of pink lemonade and a big hulla-ba-loo, but it the foundation for real work.

In a recent trip over the state the writer had an opportunity to meet with some county farm bureau executive committees. At these meetings the matter of membership campaigns and increased fees were discussed. In each instance it was brought out that there was going to be difficulty in getting farm bureau members. Why? Because the activities of the bureau did not extend into the communities. True the bureaus can show some good results in some county-wide matters. But the average farmer must first be reached in his own community. The community work has been overlooked in a good many places.

If we will but remember, the American Farm Bureau Federation and the State Farm Bureau Federation are dependent upon a portion of the membership dues collected by each and every county farm bureau, for their existence. As mentioned earlier in this article, the jobs of the State and American Federations will require considerable time. Funds cannot be solicited on promises of what is going to be done by the larger organizations. And when a county farm bureau has difficulty in getting members because the farmer cannot see any tangible results in his own community, the matter of financing the whole scheme will become serious.

The quickest solution to this dilemma is the building up of community programs of work, so that the individual farmer can see something tangible. . The farm bureau scheme cannot be conducted on the same basis that Barnum conducted his circus business for the last thirty years.

### Farm Bureau Not County Agent's Organization.

Another erroneous idea is that the farm bureau is the county agent's organization. To the contrary it is an organization which can better utilize the county agent and the agencies that he represents so that his work will reach a greater number of people rather than just a few.

A chamber of commerce in a town does not belong to the secretary. It belongs to the business men. They devote considerable of their time on problems that come before the chamber of commerce. The farm bureau should be the farmers' chamber of commerce. The county agent can be the secretary, but it will require considerable time and study on the part of the farmers if the organization is to be a success. It is not a success if built around the county agent. It should stand on its own feet.

Then, it should operate in such a manner that John Brown in a community 25 miles from the county seat can see it working near his home. Of course he will join. He will believe in it and he will support the State and American Farm Bureau Federations too.

J. W. KNORR.

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## JOINT GRAIN MARKETING COMMITTEE OF SEVENTEEN IS APPOINTED

The personnel of the Joint Grain Marketing committee has been announced by Pres. J. R. Howard of the American Farm Bureau federation. The names and addresses of the committeemen, together with the organization or interest each will represent, appear below.

The appointment of this committee was authorized at the joint marketing conference of farm organization and cooperative marketing associations held in Chicago on July 23 and 24. The committee will continue the study of the extension of cooperative grain marketing commenced at the conference, and will endeavor to work out a plan of operation upon which all farm organization and farmers' cooperative grain marketing associations can unite. When the committee is ready to report, a second conference will be held to act upon the recommendations made.

The preliminary meeting of the committee will be held in Chicago, probably during the last week of September, the exact date not yet being determined.

The committee was selected from among more than 150 available men, suggested by the various organizations or because of their outstanding work for the advancement of agriculture. Earnest effort was made to give fair and adequate representation to all important grain-growing states and to the various organizations actively engaged in bettering grain-marketing conditions. Care was also taken to select men successful in handling affairs and who are cooperative in their attitude towards others. All of the men appointed have the hearty endorsement of their respective organizations and have been found acceptable to other organizations cooperating in the movement. Three of the appointees were members of the government's committee which fixed the price of wheat during the war.

In addition to the various farmers' organizations and cooperative marketing associations, the federal government, the public, the agricultural colleges and the agricultural press are also represented on the committee.

**Committee of Seventeen.**

1. Anderson, J. M., Equity Cooperative Exchange, St. Paul, Minn.
2. Bingham, C. A., Farm Bureau, Lansing, Mich.
3. Donnell, P. E., Farmers' Grain Dealers' Association of Missouri, Waco, Mo.
4. Boles, John L., National Farmers' Equity Union, Liberal, Kan.
5. Eckhardt, Wm. G., Farm Bureau, 130 North Wells street, Chicago, Ill.
6. Gregory, C. V., Agricultural Editors' Association, Chicago, Ill.
7. Gustafson, C. H., Farmers' Union, Lincoln, Neb.
8. Hirth, William, Missouri Farmers' Clubs, Columbia, Mo.
9. Hyde, C. H., Farmers' Union, Alva, Okla.
10. Ladd, Dr. E. F., Agricultural College, Fargo, N. D.
11. Livingston, Dr. George, United States Department of Agriculture, Bureau of Markets, Washington, D. C.
12. Meisch, H. R., Farmers' National Grain Dealers' Association, Argyle, Minn.
13. Middleton, A. L., Farmers' National Grain Dealers' Association, Eagle Grove, Iowa.
14. Snyder, Ralph, Farm Bureau, Oskaloosa, Kan.
15. Taber, L. J., Grange, Barensville, Ohio.
16. Thorne, Clifford, Farmers' Grain Dealers' Association, Chicago, Ill.
17. Waters, Dr. H. J., Representing the Public, Kansas City, Mo.

# BOYS *and* GIRLS' CLUBS

## BREEDERS GAZETTE OFFERS $220 PRIZES TO BOYS AND GIRLS.

The Breeders Gazette, desiring to stimulate the interest of farm boys and girls in good livestock, offers the following cash prizes to be competed for during fair season, for the best answers to the following question:

"What individual animal on exhibition in the livestock section of any state, district or county fair you have attended this year appealed to you most, and why?"

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| For the best statement | $50.00 |
| For the second best statement | 40.00 |
| For the third best statement | 30.00 |
| For the fourth best statement | 25.00 |
| For the fifth best statement | 20.00 |
| For the sixth best statement | 15.00 |
| For the seventh best statement | 10.00 |
| For the eighth best statement | 10.00 |
| For the ninth best statement | 10.00 |
| For the tenth best statement | 10.00 |

**Rules for the Contest.**

1. Competition is open to the United States and Canada.

2. All statements must be limited to 600 words.

3. Manuscripts must be received at this post office (Sanders Pub. Co., Chicago, Ill.) not later than Oct. 12, 1920.

4. Competition restricted to boys and girls who have not yet attained their eighteen birthday, and have not been students in any agriculture college.

5. In designating the particular animal that the competitor would rather possess than any other on exhibition, the breed to which it belongs, the name of the owner, the name of the animal—if it has one— and its age must be given.

6. The statement must include a description of the animal in the competitors own language, parents and friends being advised that any attempt to assist or improve the description will disqualify the competitor.

7. Each manuscript must be accompanied by a photograph of the contestant, giving full name, age and post office address.

8. Awards will be made by a member of The Gazette's editorial staff, and checks promptly mailed to the successful contestants.

9. The five papers adjudged the best will be published in the annual holiday number of The Gazette, to appear Dec. 2, and those securing places in the prize money will appear in subsequent issues.

There are a great many boys and girls in New Mexico who will attend fairs this fall where some of the best livestock in the country will be exhibited. We are expecting to see a boy or girl from this state win a place among the winners in this "open to the world" story contest.

### CANNING CLUB MEMBERS OFFERED $100 IN CASH PRIZES

In order to stimulate and maintain interest in Canning Club Work the Hazel-Atlas Glass Company of Wheeling, West Virginia, makers of Atlas E-Z Seal jars, has given $100 to the State Agricultural College to be used for prizes for the winning cannning club members of the state.

In addition to the above gift the Hazel-Atlas Company has given us for the past three years 30 dozen pint fruit jars with rubbers free, for use in canning demonstration work over the state. These have been sent to every county and if you have not seen them in use speak to your club agent or home demonstration agent about giving a demonstration in your community.

The canning club members of the state have an opportunity to work into some profitable as well as beneficial work with these canning companies. A girl in Idaho just recently was called upon by one the large canning companies to hold a canning school in a certain county for one month, as a result of the good work she had done in the canning club the past three years. This club girl received all expenses, equipment and good pay for the work she did. I am sure that there are girls in New Mexico who could do something of this sort just as efficiently and just as a suggestion would it not be well to have our canning club girls give demonstrations for us in canning, when we want them, instead of having someone from outside the community come in, who probably knows no more about the work than these girls.

### MANY CLUB FAIRS TO BE HELD DURING OCTOBER

Club members will exhibit the results of their work at many community, county and district fairs during October and we want every person in these localities to make it a special point to see the club exhibit. We are paying the salary and expenses of our agricultural, demonstration and club agents with your money and we want you to see some of the results that are being accomplished.

Work has been received from the Northern New Mexico Fair Association that over $400 is being given to the support of club work this year and large and excellent exhibits are expected. Special prizes are offered the best judging team, demonstration team, and for the best county exhibit from the northern counties of Colfax, Union, Mora, Taos, Rio Arriba, San Jaun and San Miguel. More than $13,000 worth of registered and purebred livestock has been shipped into this section by club members this year and some good livestock exhibits can be expected. This fair will be held Oct. 5-9, inclusive.

In Curry county at Clovis, a district boys and girls club fair is to be held the 14th, 15th and 16th of October, at which the counties of Quay, Eddy, Chaves, Roosevelt, De Baca and Curry will exhibit club work. Prizes will also be offered for demonstration and judging work and good prices for individual exhibits. Over $1,500 is being given for the support of club work in this section and some fine work will be shown.

In Bernalillo county, in connection with the New Mexico Harvest Festival, the club work of the county will be exhibited and some excellent sewing and fine pigs will be on hand. In Torrance county about the same time "Bean Day" will be celebrated at Mountainair at which club work is always a feature. The Torrance county fair will be held in Estancia sometime previous to this and a big exhibit of crops, livestock and home economics work will be shown. Some fine demonstrations can also be counted on from the girls of Torrance county. They will make the rest of the girls of the state work hard to win the free trip to Denver in January.

In Union county a county fair will be held Oct. 7-9, at which some of the finest Hereford cattle in the west will be shown. Club demonstrations will be a feature of the fair and some fine exhibits of the members' work will be in evidence here.

In addition to the above mentioned club fairs a great many local and county exhibits will be held over the state, the dates of which are not in the hands of the state club office as this is being written. In McKinley, San Juan, Roosevelt, Eddy, Valencia, Mora, Otero, Santa Fe and other counties the county agents and club agents are planning to have local community exhibits to show the work of the boys and girls and get the community together for one big day of celebration and fun. Come out and boost for a bigger and better "Junior Farm Bureau."

---

Her friends never knew that the dainty apron she wore was made from one of her husband's old shirts.

## THREE STOCK JUDGING AND DEMONSTRATION CONTESTS TO BE HELD

### Winners Get Trip to International at Chicago and Western Stock Show in Denver.

A state-wide stock judging contest will be held at State College October 30. From this contest, winners will be determined who will represent the state of New Mexico in the non-collegiate stock judging contest to be held in connection with the International Stock show in Chicago, November 25 to December 4. The New Mexico Cattle and Horse Growers' association has very generously contributed $300 towards the expenses of the winning team and subsistence will be provided all contestants while in Chicago. The boys' and girls' clubs, vocational high schools, rural consolidated schools and agricultural high schools will be eligible.

At the time of the state contest to determine a team to go to the International, a contest will also be held to which only boys' and girls' clubs will be eligible and a team will be selected, composed of the three highest scoring individuals to represent the state club work at the Western stock show, to be held in Denver next January. A girls' demonstration team will also be chosen on the above mentioned date at state college, to represent the state girls' demonstration work at the Denver stock show. Transportation and expenses for the winning teams will be provided by the Western Stock Show association. Rules governing the above contest have been sent to all high schools and club workers in the state, as well as to all who might be interested in the contest. Great interest has already been manifested and the event promises to be well attended.

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Money may make the mare go, but what interests the average farmer more than that is the fact that he must keep the mare going to make money.

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Have a frame suggest the picture. A massive oak frame hardly suggests a dainty water color.

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# THE NEW MEXICO FARM COURIER

Vol. VIII. | NOVEMBER, 1920 | No. 11

County Agent Demonstrating Wild Oats Kicker in Taos County.

Published Monthly by the Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M., and United States Department of Agriculture, Cooperating.

# THE NEW MEXICO FARM COURIER

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**County Home Demonstration Work.**

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Sarah Van Vleck, Dona Ana Co., Las Cruces.
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# EDITORIALS

## FALLING PRICES.

The wool growers have been confronted with a serious situation since the bottom dropped out of the wool market last spring. Grain growers, as this is being written, seem to be facing a similar situation as the price of grain is rapidly declining. Corn and oats are selling for less than half the high level reached last May when corn was selling for over two dollars and oats for over one dollar per bushel, and wheat has taken a big decline. Cotton is also selling for little more than half the price of last spring. Cattle and hogs seem to be about the only important farm products that have been holding their own, due no doubt to the fact that the comparative prices of cattle and hogs have been too low.

The wholesale prices of all commodities also seem to have reached their high point in May and have declined steadily since. According to the United States Bureau of Labor statistics, if we consider the 1913 prices as 100, the average weighted wholesale prices were 248 last January, 272 in May and 250 in August. The figures for September will no doubt show another considerable drop. The Ford Motor company took a lead among the large manufacturers when they announced in September a 31 percent cut in the price of their car. A number of other commercial and manufacturing concerns have fallen in line and have announced a cut in prices. Just how long it will be before the reduced prices will filter down thru the retailer and cause a material reduced cost to the consumer, is hard to say; but it looks as tho the peak of prices has been passed.

That the prices of farm products were already relatively too low in August is indicated by the fact that the index number for farm products was given as 222, while that of all commodities was given at 250. Since August, however, prices of grain and cotton have taken their biggest drop. That the prices of at least some of the farm products are already lower than conditions warrant and that they will rise again, may be expected, but that we will again soon see three dollar wheat, two dollar corn or forty cent short staple cotton, is not probable. In the present unstable condition of prices, we do not wish to assume the role of a prophet, but general indications seem to be that prices are due to settle on a lower level.

In this period of falling prices, the farmer is finding himself in an unfavorable position and is no doubt one of the hardest hit. His products are taking a lead in the slump. He has produced his products while prices were high and must sell when prices are low. He is left in the position of the one holding the bag.

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## THE FARM BUREAUS.

The farm bureaus have come to stay. They have been organized along conservative lines and are endeavoring to work out the problems of the farmer from an economic standpoint in a practical way. If one reads the reports sent out by the American Farm Bureau Federation, he can not help but be impressed by the way in which they are endeavoring to solve the farmers' problems.

When it comes to a study of the marketing of grain, for instance, there are no foregone conclusions. An able committee has been appointed to make a careful study of the problem. "I desire emphatically to deny," says Mr. Howard, president of the federation, "that any policy or plan involving price fixing has been decided upon by the American Farm Bureau Federation, or any committee appointed by it. We desire merely to evolve a marketing system which will eliminate useless handling costs, unnecessary selling expenses, ruinous price fluctuation due to market juggling and speculation, and to so coordinate supply and demand as to insure that on the one hand the producer receives the cost of production plus a reasonable and living profit, and on the other hand the consumer gets an adequate and uninterrupted supply at the least possible mark-up over actual costs."

"Supply and demand," continued Mr. Howard, "must in the long run regulate the price of any commodity which depends upon a world market as wheat does, but intelligent marketing will do much toward smoothing out the unnecessary alternating high and low spots as well as in cutting out unnecessary and wasteful costs and handling charges."

Just what the national organization will be able to do to help solve the farmers' problems remains to be seen, but it is quite evident that they propose to make a thoro investigation before they begin. Their influence is already being felt, but it will no doubt be several years before any great help can be expected. They are attacking big problems and it takes time to work them out. It is also only the larger problems that the national and state federations can attack and it will be up to the county farm bureaus and their community units to solve a large share of the problems that are vital to them.

The time is now here when the majority of the county farm bureaus are making their membership campaigns. Every progressive farmer and stockman should be a member of his county farm bureau and do what he can to help solve the community problems that arise. The farm bureau idea is based on the community units and it is only when a community learns to work together in solving local problems that the organization can so thrive as to get the most help from the state and national federations.

# How Extension Work Helps the State

THERE is hardly a man, woman or child in the rural sections of New Mexico that has not been affected in some way by the work of the extension service. The extension service was created for the purpose of serving the people, but it is only when the people thoroly understand the nature and purpose of this work and are willing to cooperate with it in its endeavor to help them work out their own problems that it can be of the greatest service to them.

Extension work in the state is carried on primarily thru county representatives, the county agricultural agents, the county club agents, and the county home demonstration agents. In most counties these agents work thru the farm bureaus in an effort to help the rural communities work out their own problems, and in doing this, they are aided with the service of the extension specialists of the State Agricultural College and the United States Department of Agriculture. The branch of extension work which developed first and most rapidly in New Mexico, as indeed it did in other states, was the county agent work.

**County Agent Work.**

When we consider the nature of the work of the agents, we may state in general terms that their work is to demonstrate and give suggestions as to better and more efficient methods of production and distribution of agricultural products. To be more specific, we might cite the introduction of 701 registered bulls, 225 registered cows, 220 registered rams and 102 registered boars as a direct result of county agent work last year. Eleven agents were instrumental in building 58 dipping vats; 74,330 doses of government blackleg vaccine were furnished stockmen; demonstrations were given on the use of hog cholera serum and the treatment for ear ticks, and hemorrhagic septicemia;

CLUB MEMBERS MAKING A STUDY OF CULTIVATION.

investigations were made of alkali disease or goldenrod poisoning; and diagnosis made for determining the presence of contagious abortion. In much of this livestock work, the agents were assisted by the extension veterinarian, Dr. E. P. Johnson.

In the matter of improving crop production of the state, the majority of county agents have conducted corn variety demonstrations, introduced improved varieties of wheat and other small grains, and demonstrated the selection of better seed and the treatment of seed grain for smut. In cooperation with the bureau of biological survey a total of more than two million acres have been treated with poison for the purpose of eradicating prairie dogs and the statement has recently been made by S. E. Piper, in charge of the biological survey work of the state, that "net savings resulting from this work as represented by definite statistics, are upward of one million dollars." One hundred twenty-two demonstrations were held for the purpose of showing method of poisoning grasshoppers. In these demonstrations, 5,600 acres were successfully treated, and in addition a large acreage was successfully treated because of these demonstrations.

### Marketing Work Has Direct Value of Over $100,000.

Since the efficient production of farm products should be necessarily followed by efficient methods of distribution, a great deal of attention has been paid to the development of this latter phase of the agricultural program.

Extension work in relation to the marketing of farm products is carried on by the agents working with the marketing specialist, Mr. C. A. McNabb. The organization of the New Mexico Bean Growers' association has been one of the most important pieces of work in this line. The organization now covers most of the important bean growing sections of the state, and last year a saving of $82,000 was made to members, due to the increased price the association received over what could have been obtained on he open market and also included the saving on the purchase of bags in large quantities. The Portales Valley Sweet Potato Growers' association, organized by the marketing specialist and the county agent, built a warehouse that had a value to the community of $21,200 because of the prevention of loss, increased value of product and the purchase of supplies. Through the purchase of 900 tons of alfalfa hay in the Salt river valley in 1919, which was distributed thru the county agents, the marketing specialist was able to save the stockmen in the state $13,500 above what the hay would have cost them elsewhere. in addition to saving untold numbers of cattle which could not have lived thru to grass.

No one should understand from this that the extension service desires to take all the credit for such work. All the efforts of the county agent or the marketing specialist would avail nothing unless the producers interested are able to see the value of co-operative effort. The function of the service is to give producers all possible help in organizing and pointing out the way to avoid the pitfalls which have so often proven to be the graves of co-operative undertakings.

### Boys' and Girls' Clubs Merit Support.

A phase of extension work which merits the heartiest support of the public is the work with boys and girls. Club work properly conducted will teach the child business methods and give him or her a training in efficient farm and home management and inspire a love for farm life and its activities. The children are also real demonstrators of improved practices in agriculture and home making.

This past year a total of $18,000 has been loaned on 12 month notes by banks and other agencies to the future farmers of the state for the purchase of live stock. As a result of this work, 475 registered bred gilts and 177 calves, 30 of which were registered, were secured. Three hundred acres of crops are being grown, 195 members are engaged in poultry work, and 982 girls are engaged in some phase of home work. A total of 2,069 boys and girls are engaged in this demonstration work, as it is properly called. These future citizens of New Mexico are getting a training thru their present activities which will mean much to them in their future lives and much to the state.

### Home Demonstration Work Coming to the Front.

Even tho it was somewhat slower in getting started than the other lines of work, the work of the home demonstration agents is coming to mean much to those sections of the state where it has been developed. Discussions and demonstrations at local meetings center around such problems as "how to feed the family efficiently and economically," "how best to lighten the house work by rearranging the kitchen or installing labor-saving devices," "how to meet the high cost of clothing by remodeling hats and making over the family wardrobe," "how to get better returns from the farm poultry," or "how to improve the home and make it more attractive for the family."

While it is difficult to show this work with the women as having a definite money value, as compared to county agent activities, yet it would be easy to cite many cases where women have saved hundreds of dollars because of this work, especially in remodeling hats and clothing. Unusual interest has been shown in many communities in the securing of household conveniences. In one county in the state 236 pressure cookers were purchased with a saving of $1,062 because of ordering them in groups.

### Organization of Farm Bureaus.

A comparatively recent development in which all the extension workers have played a part, is the organization of the farm and livestock bureaus in a number of the counties of the state. The farm bureaus are the agency thru which the extension workers carry on their work. A state federation of county farm bureaus was perfected at State College last winter, and application has been made for admission to the national federation which was also organized just about a year ago. The program of this organization is conservative, based on sound economic principles and in full accord with the policies of the United States department of agriculture and the colleges of the various states. This organization is destined to play an important part in the agricultural affairs of the nation and will be the organization thru which the agricultural public of the United States will speak.

A lack of space forbids more detailed mention of results of extension work.

C. F. MONROE.

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## COLLEGE TO SEND A STOCK JUDGING TEAM TO INTERNATIONAL.

For the first time in the history of the institution, the New Mexico College of Agriculture and Mechanic Arts will send stock judging teams to the Royal stock show at Kansas City and the International stock show in Chicago. These shows are to be held the first and second weeks in November.

For several years past state agricultural colleges have been sending judging teams to these shows but because of the great distance and heavy expense involved, the New Mexico College has not heretofore participated in these contests. This year, however, the liberal financial assistance of several members of the New Mexico Cattle and Horse Growers' association enables the college to send teams to compete with students from the leading agricultural colleges of the country. The men so contributing were: H. A. Jastro, Bakersfield, Calif.; T. E. Mitchell, Albert, N. M.; Burton C. Mossman, Roswell, N. M.; and C. M. O'Donel, Bell Ranch, N. M.

The team from State College will be

chosen from the class in advanced livestock judging, which is composed of junior and senior students. Work in stock judging has been going on in earnest. In order to secure practice in judging the best stock available, in addition to that which could be had at the college, many trips have been made to different parts of New Mexico.

As this is the first time that New Mexico has participated in anything of this kind, the activities of the team will be watched with interest by the friends of agriculture in the state.

# Crop Adaptation in New Mexico

NEW MEXICO is almost square in outline, being 350 miles from north to south, and about the same from east to west. On account of its varied topography the elevations range from about 3,000 feet in the southeastern corner to more than 14,000 feet at the top of the highest mountains. On the whole, New Mexico consists of high plateaus or mesas, with numerous mountain ranges, canyons and valleys; some of the valleys are large enough to make possible the carrying on of extensive agricultural operations under irrigation.

### Conditions in New Mexico Vary Greatly.

Because of the great range in altitude, climatic conditions are extremely varied, which must be taken into consideration in all agricultural operations. When it is considered that

One of the Problems of the Experiment Station Is to Find Crops and Varieties Adapted to New Mexico. This Is a Plot of Kaifer Grown Under Irrigation on Experiment Station Farm.

tions. When it is considered that practically all of the farming not carried on under irrigation is being done by dry farming methods, which is now being carried on in altitudes varying from 3,000 feet to about 8,000 feet, under a normal precipitation varying from about 10 to 25 inches, and with a long growing season in the lower altitudes to a very short one in the high altitudes, it can readily be seen that the limiting factors in crop production vary widely. Therefore, it is evident how important it is for farmers to have some knowledge in regard to plant adaptation in New Mexico, and to study thoroly the conditions in order that serious mistakes may be avoided. The New Mexico Experiment Station thru its experiments and research investigations makes available the knowledge affecting these agricultural operations.

### Only Small Number of Crops Adapted to Dry Farming Regions.

Crops adapted to the unirrigated districts in either the lower or higher altitudes are comparatively small in number. The amount of moisture and length of the growing season are two important limiting factors for many crops in New Mexico. The 5,000-foot elevation is probably about the limit in altitude for many of the grain sorghums which are among the best crops for the dry farmers below this altitude; however, up to this altitude Sudan grass, beans, Indian corn, broom corn and wheat are also dependable crops. In the higher dry land districts short season corn, wheat, barley, oats, field peas, beans, and, in some districts, Irish potatoes, are among the leading crops.

### A Larger Number Adapted to Irrigation.

In the irrigated valleys, where the moisture factor is largely under the control of the farmer, a much larger variety of crops can be successfully raised, **under good farm management.** In addition to a large variety of vegetables and fruits, practically all of the crops that can be raised by dry farming can be grown in these irrigated districts of lower altitude. In the high altitude, mountainous, irrigated districts, aside from the dry farming crops that are grown under these conditions, alfalfa, many of the cool season vegetables, and a number of fruits, principally apples, cherries and plums, are usually grown successfully, except that the late spring frosts occasionally partly or wholly destroy the fruit crop.

In this article only a brief discussion is given in regard to the agricultural possibilities in the state. On account of its length it would not be wise to go into detail as regards the many varieties of the different agricultural crops that are grown in each section, or to give descriptions of the different types of soils that are to be found in each locality, and the crops suited to them.

### Experiment Station Has Studied Relation of Environment to Crop Growth.

One of the many experiments conducted at the Station has been in regard to getting definite information on the precipitation and temperature in connection with plant growth in New Mexico. These data, which are of immense value not only to the New Mexico stockmen and farmers, but to people from other states who contemplate coming to New Mexico to engage in agricultural pursuits, have now been published in bulletin No. 113, which can be secured by writing to the Experiment Station.

In order to be able to get definite agricultural data relative to crop adaptation in New Mexico it is necessary to carry on investigations. The Experiment Station has now about sixty active experimental and research projects. One hundred and twenty-three station bulletins have been issued, giving results of the agricultural investigations already completed. Three hundred and seventy-one press bulletins on the more practical phases of agriculture have also been issued. All of these can be secured by writing to the Experiment Station at State College.

FABIAN GARCIA.

# Give the Farm a Housecleaning

THE FALL is a good time to make a general clean-up on the place to combat weeds, insects and plant diseases. As winter approaches all the pests that make life miserable for the farmer are preparing for a rest during the cold season. The weeds are developing millions of seeds; the insects are laying eggs or else are burrowing into the ground; and the fungi which cause diseases are sending off spores. Usually by this time of the year the farmer has harvested his crops and has time to make a general clean-up. At any rate it pays to take the time.

### Weeds Should be Destroyed.

Clean up the weeds that have been standing all summer because there was no time to cut them. Cut and burn them now before the ripened seed falls to the ground. Get those tumble weeds along the edge of the field before they break loose and go tumbling all over the country scattering their seed far and wide. If the Johnson grass has been allowed to form seed the best thing to do is to let the cows loose on it to eat it down. Later the farmer may plow up the roots so that they will be exposed to the frost. The sunflowers along the roadsides should be a community proposition. The sandburs in the orchard that make the fruit picking so disagreeable and the cockleburs in the field that ruin the sheeps' wool and cause so much difficulty with the horses' and cows' tails, could all be eliminated by a little cooperation of the farmers of the community. The burning of weeds not only destroys the seed but also kills hibernating insects.

### Fall Plowing Destroys Insects.

Late fall plowing does much towards destroying burrowing and hibernating insects and their eggs that are in the ground, such as grasshopper eggs, corn ear worms that attack the cotton boll, squash bugs, bean beetles and many other troublesome pests. The plowing, besides destroying the insects and exposing the weed roots to the elements, is good for the soil.

Go thru the orchard and cut out all the blighted branches of the pear trees. Be careful not to spread the disease more than it is. Carefully disinfect the cutting tools each time they are used with a 1-1000 solution of bichloride of mercury. Be sure to cut the branch off at least six inches below the blighted area. Burn all the diseased branches cut off.

Gather up and burn all the smutted ears of corn. Do not feed them to the stock if the manure is to be used next spring for fertilization because the spores of the smut pass thru into the manure and when scattered over the corn field will reinfect the young seedling corn. The web worm that attacks so many different trees this time of the year can be killed by spraying with lead arsenate.

### Manure Should be Carefully Handled.

Start that manure pile, or better the manure pit, now. In this way the stable and corral can be kept clean during the winter. There will not be the usual slop and mess when the rains come. Also there will not be any feeding place for the house fly larvae next spring.

It would be well to fix up that outdoor privy. Make the building absolutely flyproof. Get some lime to use in the pit. It is better to have the more sanitary bucket or box privy. A good substitute for lime is dry dirt that can be sifted from the road into a large container. This container is to be kept inside the privy with a can to apply the dirt.

The chicken house should be plastered on the inside in order to cover up the cracks where the lice and blue bugs hide. Adobe mud is just as good as anything else for plastering if a smooth job is made of it. Then to make a real neat job a coating of whitewash should be applied.

### Rats Becoming More Numerous.

Since the rats are on the increase in the state it would be a good idea to start a campaign against them. If we let them go unmolested it will be but a short while until hordes of them will be in every home, warehouse and barn. They will bring with them the spotted fever and the plague, they will devour our stored crops and ravage the pantry shelf and the clothes closet. This is a pest that can be kept down by the united efforts of housewife, storeowner and farmer. The large sized spring trap is quite successful as are various poisons.

ROBERT MIDDLEBROOK
W. A. ARCHER.

# HOME ECONOMICS

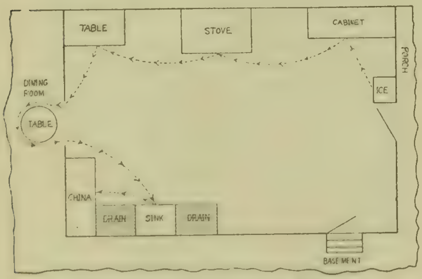
## The Labor-Saving Kitchen

ONE of the questions asked in the Survey of Farm Homes taken by the United States Government, June, 1919, was, "Is your kitchen conveniently arranged?" This question was answered in the negative by 37 percent of the New Mexico women filling out the blanks, while a number left the question unanswered.

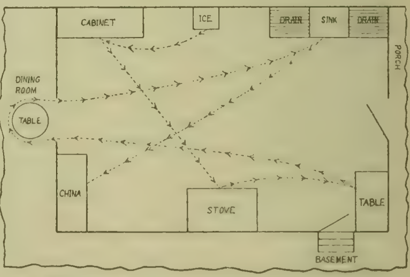
### What Is a Convenient Kitchen?

In order to determine if the kitchen is really convenient, it may be well for the housewife to ask herself the following questions:

1. Are the floors, walls and windows of my kitchen the best that I in my present circumstances, can make them?



A Conveniently Arranged Kitchen.



A Kitchen Not Conveniently Arranged.

2. Are my kitchen table, stove, cabinet, ice chest, sink and china closet located in proper relation to each other and the dining room, so that it is possible to do the work without taking unnecessary steps?

3. Are sink, table, ironing board, or other working surfaces at the right height so that it is not necessary to stoop while working?

4. Is there a high stool in the kitchen, that facilitates sitting while doing part of the work such as preparing vegetables, wiping dishes, etc.?

5. Is my position comfortable while working?

6. Are my cooking utensils arranged in drawers or on hooks so that the one wanted can be obtained with a single motion?

7. Have I the necessary utensils for properly performing the work I have to do?

8. Are my tools properly adjusted and in condition to do the best work before I begin?

9. Do I get utensils and tools together in proper groups before I begin a task, or do I have to stop work, go and hunt for utensils needed?

10. Do I make unnecessary motions in doing my work?

### Equipment Should Be Conveniently Arranged.

It is a well known fact that most housewives cannot tear down their houses and build them over again when they are not satisfactory, neither can many of them buy all the equipment that they need. All can, however, arrange what equipment they already have so as to make the most advantageous use of it and to eliminate steps and save time.

The illustrations show how this can be done. Note the continuous route of travel in the conveniently arranged kitchen. The inconveniently arranged kitchen shows the same equipment differently arranged. Notice how the routes cross and recross each other, thus increasing the number of steps necessary to do the work.

Everyone knows the weariness that comes from bending over a sink, ironing board or table that is too low for the worker. A high stool is a means of saving strength and energy. The time has gone by when it was considered lazy for a woman to sit at her work, and she has learned that she cannot afford to waste her energy any more than she can her money. An uncomfortable position during work adds unaccountably to the weariness of the day.

### Caring For Cooking Utensils.

There are two ways of caring for the smaller cooking utensils. One is by hanging them on hooks, the other is by placing them in drawers. The latter is used by those who prefer to have them shut away. Either way may be satisfactory if the arrangement is such that the utensil wanted may be obtained with a single motion. If hung on hooks, there should be a hook for each utensil and nothing else should ever be hung in the place. If several articles are on the same hook, the one wanted is always at the bottom and all the rest have to be taken down in order to get the one wanted. Where utensils are kept in drawers, they should be laid out singly, each one always in its proper place. Every one has had the experience of going to a drawer piled full of a promiscuous lot and digging frantically for the article wanted. Much time can be saved by an orderly arrangement of the utensils that are used daily and sometimes more than daily.

Almost every housewife is getting along without some utensil, the need of which she is constantly feeling and the cost of which is insignificant. Examples of these are egg beaters, measuring cups and spoons, small sharp knives for preparing vegetables. How many women are using the heel of the butcher knife for such work?

### Get Ready Before Starting Work.

Much time will be saved by getting all utensils and materials together before attempting a piece of work, rather than beginning work, then stopping and running for things as they are needed. If the housewife will watch herself at work she will find that with each task she performs she makes unnecessary motions that with a little thought she can eliminate, and the action will soon become automatic and she will be enabled to perform the task in a much shorter time and with less effort and weariness.

It is growing more and more difficult to procure help with the housework, and the housewife who is wise will see that her kitchen has the best possible arrangement and provide herself with every labor saving device as fast as possible in order that her family may be properly provided for and she herself gain some time for rest and recreation in order that she may enter more fully into the lives of husband and children and have some time to devote to community interests.

MARY B. RICHARDSON.

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New courses in applied art, including interior decoration, history of art and commercial design are being taught at State College this year in the home economics department.

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Every home economics graduate in the class of 1920 holds an excellent teaching position.

# FARM BUREAU

## FARM BUREAU ACTIVITY BASED UPON COMMUNITY AS A UNIT.

As time goes on it is becoming more evident that for a number of years at least, fully nine-tenths of effect of farm bureau work that will be done in New Mexico will have to be accomplished thru community project committees. This is due in a large measure to the widely scattered communities, which have a great variety of agricultural problems which will have to be worked out and solved satisfactorily before community interests can be united on county-wide problems. This does not mean that there is no need or room for a central executive committee; but a study of the matter does bring out the fact that we have depended too much upon the executive committee to focus its efforts upon the communities. It is like shooting at a mark at too long a range. Community problems should be met by local people, while the central executive committee that is made up of the best agricultural men and women of the county, should act as an advisory board for the bureau on a county-wide basis. It is the county agent's job, therefore, to help a few progressive people within the communities to analyze their agricultural condition to find out the sources of income, to determine the limiting factors in each of these sources, and to hit upon something definite which will tend to overcome these limiting factors, and carry them out with the people thru the effective leadership of those amply qualified to do the work.

The need of this community work has been brought out in a number of counties where the representatives of the State Extension office have had an opportunity to meet with the executive committees of some of the farm bureaus to discuss the reorganization of the work for 1920 and to conduct membership drives. For the first time it seems that the executive committees are confronted with the problem of getting membership, but they immediately thought of many communities where this would be difficult because the farm bureau program of work did not include definite problems of the people within these communites. The executive committees later saw where the community place of farm bureau work should receive more attention, and they realized that they could not handle community problems, but that it was up to them to search out desirable individuals for community leadership, and thru them, carry on community work.

J. V. HEPLER.

## MUTUAL HAIL INSURANCE COSTS ONLY 7½ PERCENT.

### Wheat Farmers in Quay and Curry Counties Save $19,672.

Saving the farmers of Quay and Curry counties a sum of $19,672.68 above what the same amount of insurance would have cost in an old line company, is the past year's record of the Farmers' Mutual Hail Insurance Company of Forest, New Mexico. When it is considered that Quay and Curry counties experienced last summer one of the worst hail storms in their history, the results are very gratifying.

The directors of the Farmers' Mutual Hail Insurance Company met recently for the purpose of checking over the year's business. The secretary's report showed that a total of $357,687.50 worth of insurance was written, protecting 28,706 acres of wheat for 247 different farmers. During the season 82 crops were damaged with from 5 to 100 percent losses. The total cost of the association, including payment for damages and operating expenses, was $26,826.57. This will amount to about 75 percent of what the notes call for at a 10 percent insurance.

This association is only two years old, starting last year on a comparatively small scale. It was reorganized this year with several changes that were deemed necessary for its betterment. The farmers mean business They have demonstrated that they mean business by the work of the association this year. It would have kept an expert auditor "a-jumping" to have kept up with the secretary as he went over his books with the executive board at their recent meeting. It will not be long before this association will be insuring the crops all over the plains of East Central New Mexico because it has demonstrated that it will be a success.

### A FAMILY GARDEN.

"A well planned, well kept garden, with a variety of vegetables, will go a long way towards providing a living for the ordinary family," says H. M. Aragon, County Agent, Taos County. Mr. Aragon has proof of what he says in one of the finest gardens that the writer has ever seen.

The native people of Taos county have followed along the footsteps of their forefathers for a long time, and it has been hard to interest them in diversified gardening. Beans, corn, pumpkins and melons have been practically their only garden crops. Then when the beetles, grasshoppers, plant lice and squash bugs advanced upon their garden patches in hosts, they only shrugged their shoulders in submission, but patiently planted their beans and corn the next spring.

Mr. Aragon had talked diversified gardening for the past year. He went further and planted a demonstration garden of his own to work out on a practical basis the type of family garden he had been talking about. And such a garden as he had! It would make your mouth water to even look at the juicy yellow carrots, at the blood-red beets, at the tender sweet corn, and at the delicious, ever-bearing peas. In addition to these he also planted two or more varieties of each of the following: Radishes, lettuce, onions, cucumbers, beans, tomatoes and cabbages. The garden was planned so that a crop was growing on every part of the land all summer long, and every available foot of land was used.

Aside from the garden vegetables, small demonstration plots of several field crops were planted. These demonstrations consisted of giant Russian sunflower, wheat, alfalfa, white sweet clover and Sudan grass, all of them doing remarkably well.

Of course the garden was invaded by thousands of injurious insects, but again Mr. Aragon was able to demonstrate to the satisfaction of the people the practicability of spraying for their control. To quote Mr. Aragon further:

"During the month of July over thirty interested farmers visited my garden, and many more have visited it since that time. Besides using my garden as a demonstration to the people of the county," and now he comes down to the bed rock of what he is trying to demonstrate, "it has provided practically the entire living for my family of five during the entire summer and we have enough canned and stored to last us thru the winter." Mr. Aragon thoroly believes in what he is doing, and conscientious work will not go unrewarded.

### SOME INTRODUCTIONS.

Some of the new members of the college faculty who will be called upon to do more or less extension work are:

Prof. Robert Middlebrook, the new head of the Biological department received his A. B. at Yale and his M. D. at Jefferson Medical college. Before the war he was professor of physics and biology in the University Medical college at Kansas City and during the war was captain in the medical service.

Prof. F. E. Uhl, the new poultryman, comes to the college from a position as instruction of vocational agriculture in San Juan county. He received his training in the Kansas State Agricultural college, and has had a great deal of experience in poultry work.

Miss Callie May Bliss of the Home Economics department holds an M. S. degree from the Iowa Agricultural college at Ames. She specialized in applied art in the home and has had several years' teaching experience.

# Who's Who Among Farm Bureau Presidents

### A. S. J. EYLER
### Of Dona Ana County.

The Dona Ana County Farm Bureau was one of the first to be organized in the state and it has been one of the most active ones since its organization. Since the first, Judge Eyler has been one of the chief workers for the good of the organization, and when the Farm Bureau met last June to elect a new president who, for the first time was to serve two years, he was unanimously chosen for the place. The efficient manner in which he handled the business of the Water Users Association, of which he was president the preceding year, showed that he could be depended upon to carry the Farm Bureau thru another successful year.

**A. S. J. Eyler of Dona Ana County.**

Mr. Eyler originally came from Ohio, and for several years was judge of the County Court at El Paso, Texas. He is now farming at La Mesa, New Mexico, where he maintains a fine purebred Jersey herd. One of his hobbies in the building up of a fine agricultural library of which he makes good use. The fact that he has chosen to farm in Dona Ana county speaks well for the county, for he is a man of good judgment, and he is also not afraid to say what he thinks. He can always be depended upon as one of the leaders in any progressive community movement.

### STANLEY G. CALISCH
### Secretary-Treasurer State Farm and Livestock Bureau.

Mr. S. G. Calisch has been an active worker in the Quay County Farm Bureau since it was organized May, 1919, and he was elected secretary-treasurer of the State Bureau last January. He is one of the live wires in the farm bureau movement and has been an active leader in livestock improvement and feed reserve.

**S. G. Calisch, Secretary-Treasurer of State Farm Bureau.**

Mr. Calisch came to New Mexico from New York in 1902 and has been a resident of this state ever since. He spent some time as a student in the Agricultural College at the University of Missouri. He is primarily interested in stock raising and while still under 30 years of age, has already established a fine herd of registered Herefords. He has conducted practical tests and demonstrated the value of cutting, stacking and feeding the wild Russian thistle and sunflower to be used in times of emergency. He willingly pushes anything that will work for the best interest of his community or the state.

### NEW HOME DEMONSTRATION AGENT IN BERNALILLO COUNTY.

Mrs. Maud Doty, who has been appointed to succeed Miss Iva B. Fuchs as home demonstration agent of Bernalillo county, took up her duties October 1. Mrs. Doty is a graduate of Colorado Agricultural college and has had a number of years' experience as a farmer's wife in New Mexico and other states. Being familiar with both the practical and scientific sides of all problems of the home, she is especially well fitted to fill her new position.

# BOYS *and* GIRLS' CLUBS

### STATE AGRICULTURAL COLLEGE TO AWARD CERTIFICATES OF ACHIEVEMENT TO CLUB MEMBERS.

Every club member in the state should have a College Achievement Certificate, showing that he or she has been one of the big army of boys and girls in the state who has been demonstrating proper practices in agriculture and home economics this year.

Some time ago the college offered a tuition scholarship to all of the members who had completed four years of club work. There has been in the past no way of keeping a record of the work from year to year, and now by presenting this achievement certificate to the State Club Office, it will show the number of years you have been in the work and the only necessary requirement then left is to get a written letter from your local leader and county agent stating that you deserve the college scholarship according to the rules laid down for the same.

We will send out to the county club agents in the near future samples of these certificates, so that all members may see what they are to receive from the college this year in recognition of their work.

The certificate will be engraved on heavy white paper suitable for framing. There will be engraved in each of the four corner places, for placing the gold achievement seals just like those on your club charter. Each year you are in the work and complete a demonstration you will receive an additional gold seal to be placed on your certificate. Upon receiving four of these you are then entitled to apply for the College Scholarship. A clover with only one leaf would not be complete and a club member with only one seal would not have finished the job, so we want every member receiving a certificate to stay in club work for at least four full years.

### CARE OF SILVERWARE.

Many people claim that the best way to clean silver is to use it. In case unused silverware becomes tarnished, the following method of cleaning is desirable. The pieces which have become blackened are placed in a pan filled with a hot solution of salt and cooking soda, together with a piece of bright zinc or aluminum. The pan itself may be made of one of these metals, but it must be kept bright and clean.

The action which occurs causes the tarnish on the silver to dissolve and leave it bright and clean.

LUELLA MADSON FOSTER.

# Egg Laying Contest

## REPORT OF EGG LAYING CONTEST, AUGUST AND SEPTEMBER.

The molting period is having its effect on production in all pens, and the staying power of the best hens is being demonstrated. Only twenty-nine hens laid eggs in September, and eleven of those laid less than ten eggs each. The highest pen average was 13.4 eggs. The yearly individual production will not average as high as it should. With careful attention given to picking well matured pullets for the second contest, the record in 1921 should show higher yields. The highest records in August and September are as follows:

| | | Pen Production. | | | Highest Hen. | | |
|---|---|---|---|---|---|---|---|
| Owner. | Breed. | Aug. | Sept. | To date. | Aug. | Sept. | To date. |
| Gentry Poultry Farm | W. Leghorns | 78 | 54 | 780 | 22 | 21 | 207 |
| G. G. Gilmore | W. Leghorns | 87 | 44 | 763 | 21 | 17 | 163 |
| G. Soulard Turner | W. Leghorns | 88 | 26 | 682 | 21 | 19 | 162 |
| C. B. Allaire | B. P. Rocks | 79 | 67 | 570 | 23 | 22 | 163 |

## SECOND NEW MEXICO EGG LAYING CONTEST BEGINS DEC. 1

The second contest will begin December 1, 1920. It is desired that applications to enter pens be sent in as soon as possible, and that the pullets be sent to the station as early in November as practicable in order that they might become accustomed to conditions before December 1. We have facilities for handling twenty pens in the second contest. This will give room for new entrants. We would be pleased to have applications from breeders whose variety was not represented in the first contest. Among others we would like to have pens of Orpingtons, Rhode Island Reds, Brahmas, White Plymouth Rocks, Minorcas, and Anconas.

The contest offers those who are trying to improve their flocks, a cheap method of securing breeding stock of known production. The fact that a breeder enters a flock is sufficient evidence to show customers that he or she is working for practical improvement in laying stock. The trap-nest record gives a basis from which to work and should be of much benefit to those who take advantage of it. We hope that at least twenty people have been growing some purebred pullets especially for this contest; that they have kept them growing from the start; that the pullets are now nearly mature and will soon be ready for a good year's work.

Will you cooperate with the Station for the advancement of New Mexico poultry? May we have your application in an early mail? If so, please fill in and return the following blank.

F. E. UHL,

Poultry Department.

### SECOND NEW MEXICO EGG LAYING CONTEST.

NEW MEXICO EXPERIMENT STATION,
STATE COLLEGE, NEW MEXICO.

I hereby make application for entry in the Second New Mexico Egg Laying Contest, of one pen of 1920 hatch pullets of the.............................. ..............................variety. I hereby certify that these pullets are my own property. I also agree to abide by all the rules of the contest. The entry fee of $5.00 is enclosed herewith.

Signed..............................................................

Address............................................................

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# THE NEW MEXICO FARM COURIER

Vol. VIII. DECEMBER, 1920 No. 12

Curry County Demonstration Team which won first prize at the contest held at State College and which will represent New Mexico at Western Stock Show at Denver.

Published Monthly by the Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, N. M., and United States Department of Agriculture, Cooperating.

# THE NEW MEXICO FARM COURIER

Published monthly by the New Mexico College of Agriculture and Mechanic Arts and sent free of charge to residents of New Mexico on application.

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R. W. CLOTHIER, President of College.
FABIAN GARCIA, Director of Experiment Station.
C. F. MONROE, Director of Extension.

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| C. F. Monroe | Director |
| W. L. Elser | Assistant to Director |
| L. H. Hauter | Extension Editor |

#### County Agricultural Agent Work.

————————, State Leader, State College.
J. V. Hepler, Assistant Leader, State College.
G. L. Crawford, Bernalillo Co., Albuquerque.
J. R. Thomas, Chaves Co., Roswell.
W. H. Sawhill, Colfax Co., Raton.
E. Peterson, Curry Co., Clovis.
D. F. Laubmann, De Baca Co., Fort Sumner.
J. B. Peterson, Dona Ana Co., Las Cruces.
————————, Eddy Co., Carlsbad.
————————, Grant Co., Silver City.
Stuart Stirling, Lincoln Co., Carrizozo.
A. C. Heyman, Luna Co, Deming.
H. P. Powers, McKinley Co., Gallup.
Louis Kronig, Mora Co., Wagon Mound.
J. W. Ware, Otero Co., Alamogordo.
E. M. Yates, Quay Co., Tucumcari.
Lee J. Reynolds, Roosevelt Co., Portales.
————————, Sandoval Co., Bernalillo.
J. M. Ramirez, Santa Fe Co., Santa Fe.
H. S. Moles, San Juan Co., Aztec.
Lorin F. Jones, San Miguel Co., E. Las Vegas.
P. J. Smith, Sierra Co., Hillsboro.
H. M. Aragon, Taos Co., Taos.
J. G. Hamilton, Torrance Co., Estancia.
E. C. Hollinger, Union Co., Clayton.
R. S. Conroy, Valencia Co., Los Lunas.

#### State Extension Specialists—State College.

Dr. E. P. Johnson, Veterinarian.
C. A. McNabb, Marketing.

#### Boys' and Girls' Club Work.

R. G. Foster, State Leader, State College.
Herman Fauber, Colfax Co., Raton.
Edna Hume Durand, Curry Co., Clovis.
C. C. Head, Quay Co., Tucumcari.
W. H. Trentman, Torrance Co., Estancia.
Melecio Trujillo, Valencia Co., Los Lunas.
A. L. Tarlton, Union Co., Clayton.

#### County Home Demonstration Work.

Mary B. Richardson, State Leader, State College.
Maud Doty, Bernalillo Co., Albuquerque.
Leah Harris, Colfax Co., Raton.
Sarah Van Vleck, Dona Ana Co., Las Cruces.
Edith M. Hurley, Union Co., Clayton.

# EDITORIALS

## THE FARM BUREAU AND COMMERCIAL ACTIVITIES

The American Farm Bureau Federation has prepared a suggestive constitution and by-laws for county farm bureaus, which contains the following article:

"The ............... County Farm Bureau, as an organization, shall not engage in commercial activities, nor shall it hold stocks or bonds in organizations undertaking such activities. It may encourage, however, the organization of such activities or industries as may seem necessary and advisable to the board of directors."

This article was inserted only after a careful study and it is no doubt a wise clause. The farm bureau should be the means of getting farmers together to discuss the feasibility of organizing any cooperative association. If it is decided that such an organization has a place in the community, a separate association should be organized by those who are immediately involved. The farm bureau itself should be kept free from the details of commercial activities in order that it can devote its energy to studying and working out in a more general way the problems of the farmer.

## THE FARM LEASE

It often happens that a method of renting land continues in a community even after a change of conditions has made the terms very unfair to one of the parties involved. When land is to be rented it is well to check up on the terms of the lease and be sure that they give a fair distribution of the income of the land for the services rendered. When the value of the labor and equipment supplied by the tenant equals the value of the interest on the land value, or other services rendered by the landlord, renting land on the half share basis could be considered fair to both. But when the share of total expense is distributed between landlord and tenant in some other proportion, that should be made the basis of determining the share of the product each is to get.

It rarely pays to be unreasonable in making a lease. The landlord who attempts to take as his part too large a share of the product will usually be the loser in the long run. Tenants will become dissatisfied, the best tenants will not remain on the farm, and in one way or another, his profits will be cut down.

## SETTING THE PRICE

Much has been said and written during the past few months in regard to the California plan of marketing farm products and having the producers name their own price. Especially since the recent slump in prices we have reason to ask, if the farmers of California can name their own prices on raisins, prunes and almonds, why can't all farmers organize and name the price on their products? In fact, there has been a serious proposal by wheat growers to hold their crop for $3 wheat and the cotton growers to hold their crop for 40-cent cotton.

That the California associations have put their industries into prosperous conditions is shown by the increase in production. The raisin crop was increased from 35,000 tons in 1912 to 210,000 tons in 1920. The acreage devoted to almonds has increased between six and seven times since 1910. Prune production has also been greatly increased.

These associations have made no attempt to curtail production. They have, however, made every attempt to increase the market demand, and they have been so successful in doing this that they have been able to dispose of the increased supply after setting a price that has been very profitable to the farmer. They have set their price after studying the demand rather than studying the cost of production.

But this matter of increasing the production would be the very thing that might be fatal in the case of wheat or cotton. If all the farmers in the United States now growing wheat could be brought into one association to pool their crop, they would no doubt be in a position to name the price of wheat just like the raisin growers are doing, or like an automobile manufacturer does. But this price would have to be low enough to move all the wheat. It would also have to be low enough, in comparison with other crops, so as not to over-stimulate production.

It might be suggested that they could curtail production in order to keep the price up, just like the textile manufacturers did this past summer when they found that their supply of manufactured goods was exceeding the amount that they could sell at a profit. This they could, no doubt, do if they were well enough organized, when prices are relatively too low, but they would differ from the textile manufacturer in that they would have to make their plans a year or more in advance. In fact, this is just what tends to happen without organization when the price of any product tends to fall relatively too low in comparison with other products. This is why we tend to have alternating high and low prices of farm products, the cycle period for each product depending on the length of time it takes farmers to get in and out of producing a particular product.

But if the price of any one product is high in comparison with others, curtailing production would be difficult except where the area of production was limited. If, for instance, the present wheat growers should set the price of wheat relatively too high, and should endeavor to maintain this price by curtailing production, a great many farmers in the corn belt now growing corn would begin to grow wheat. The production in Canada, Australia and other wheat surplus producing countries would also be greatly stimulated. But it is not probable that a wheat association could find a market for its product at a price that would be profitable to the farmer, even should the world production be increased by only 10 or 20 percent.

The farmer should have something to say in regard to the marketing of his products. In fact, there is no reason why he should not set the price of his products just like the automobile manufacturer does, provided someone can devise a method and create an organization for doing this. But even should this be done, it is not probable that he will ever be able to place himself in a position where he can set a price high enough, in case of the great staple products, to make his business more than ordinarily profitable for a long period of years.

If he ever becomes so well organized that he is actually in a position to set the price of his products, it will be necessary for him to study demand as carefully as he does cost of production, and attempt to set the price just high enough so that the supply will tend to equal the demand. Not until the conditions affecting supply and demand are so well understood and so regulated for a period of years, thus avoiding temporary fluctuations, that the law of supply and demand will work itself out with the least friction, that the greatest economic justice can be expected for the farmer and for everyone. But this applies to all commodities as well as those of the farm, and this is the problem that the farmer, thru organized effort, has to solve.

# What Is a Good Bull Worth?

IT IS sometimes said that the bull is half the herd. This is true and if he is a prepotent individual who can improve the offspring of every cow in the herd he is more than half the herd. When we think along this line we see why it is important that the herd sire be chosen with the utmost care and why it is good business to pay several times more for the really good sire than for the indifferent one.

**Hugorotus Failed to Build up Herd.**

The work of two Jersey bulls used at the Missouri experiment station indicates this very clearly. One of these bulls was Hugorotus. We find that eleven daughters produced an average of 4,576 pounds of milk and 245 pounds of butter fat per lactation period as compared with 4,969 pounds of milk and 231 pounds of fat produced by their dams. In other words they averaged 393 pounds less milk and 14 pounds more butter fat than did their dams. If their product had been marketed as whole milk they would have been of less value than their dams, and of only a slightly greater value than their dams if cream or butter had been sold. In fact their sire Hugorotus can be said to have been of no value so far as improving the herd was concerned.

**What Missouri Rioter 3rd Did.**

Another bull used was Missouri Rioter 3rd. The average production of his daughters per lactation period was 8,005 pounds of milk and 384 pounds of butter fat as compared with 4,775 pounds of milk and 238 pounds of butter fat, the average production of their dams. In other words his daughters produced on the average 3,230 pounds of milk and 146 pounds of fat more per year than their dams. The milk averaged about 4.8 percent of butter fat and would be worth $4.92 per hundred pounds based on the price paid by the Rio Grande Valley Dairy association for the milk of the Mesilla valley of New Mexico. This would make the 3,230 pounds of milk worth $158.92 or the average production of one of his daughters was worth $158.92 per year more than the average production of her dam. The total production of ten such daughters would have been worth $1,589.20 per year more than the total production of their dams. What would a bull that can produce such results be worth to a man who is attempting to build up his herd? Certainly he could afford to pay many times more for him than for a bull of the Hugorotus type. In selecting a herd sire it is well to remember that a bull capable of increasing the production of his daughters over that of their dams is a good investment even at a comparatively high price, while the indifferent bull is a bad investment at any price.

O. C. CUNNINGHAM.

# Winter Feeding of Cows on the Range

AN EXPERIMENT is in progress at the Tucumcari Station which has for its object the determination of the effect of keeping cows in better condition during the winter by growing and feeding dry farm crops in the form of silage and dry roughage, using such crops as sorghum, kaffir, milo, Sudan grass and cowpeas, which are known to do best under dry farm conditions, converting the sorghums largely into silage, and making hay of the cowpeas and Sundan grass.

### Dry Farming Sections Can Produce Feed Crops.

Experience has shown that the dry farm portions of the state cannot be depended upon to produce grain crops regularly, but there is always sufficient moisture to produce a forage crop, tho it may not always have sufficient time to mature, and it may be necessary either to cut it for fodder or put it into the silo while still immature in order to save it. There is usually a long enough season after the rains come to produce a crop of cowpeas or Sudan grass hay. When the other crops are put into the silo and these two kinds of hay are fed in connection with them, it does not take a large quantity of them to keep cows in excellent condition when they are securing a part ration from the range.

Under this plan it is expected that cattle will be kept constantly in good condition, and the young stock be kept growing and developing thruout the year, instead of having a stand-still period during the winter. It is believed that the results of such feeding will put the cattle industry of some portions of the state on a much more substantial and reliable basis than at present exists. Among the beneficial results of such a system may be mentioned the following:

### Value of Winter Feeding.

1. A larger percentage of calves would be raised, and they would be better developed, larger, and healthier from the beginning, and their growth would be more rapid, because their dams would be in condition to give them a larger supply of milk; and by the end of the first year, the most important period of the calf's existence, it would be a very much better calf than under the strictly range condition..

2. The effect on the cow would be to develop her earlier into a breeding animal, keep her growing longer, and make a larger animal, and a better mother of her than is possible without such feeding.

3. By following such a practice, that is ,devoting part of the land to crop production, a larger number of cattle can be handled on a given area, which would be particularly beneficial to farmers with small holdings.

### Results of Experiment.

For this experiment ten grade Hereford heifers coming three years old were purchased from the range in the locality of Tucumcari. Five of these were left on the range during the winter without other feed than that furnished by the native grasses and weeds of the range, this being the usual method of keeping range cattle thru the winter until green grass comes again. The other five were taken to the Experiment Station and given the run of the native grass pasture, and were given in addition twenty pounds of kaffir silage and three pounds of cowpeas hay per head daily. This was supposed to be a maintenance ration, but it proved a little more, for the cows gained during the time they were fed and were in very good condition at the close of the feeding period. All the cows produced calves during May and June, but the cows from the range were in a thin condition. The feed they secured from the range was evidently not enough for maintenance. Their calves at the time of birth weighed eleven pounds less per head than those of the cows that were fed, and on December 29, the calves of the fed cows weighed an average of seventy-three pounds per head more than those of the cows not fed; and the fed cows eighty pounds per head more than the others. The ration mentioned above was fed from January 14 to April 23, a period of ninety-nine days, but no hay was fed during the last month. LUTHER FOSTER.

# The Tendency of Cotton Varieties to Cross Fertilize

COTTON is a cross-fertilized plant. When two or more varieties are planted close together they will, in all probability, mix quite readily. They will mix even when planted at considerable distance apart. In fact, some varieties of cotton have been known to mix, one with another, when planted separately at a distance of three-quarters of a mile apart. This mixing or cross-pollenation which results in cross-fertilization, may be accomplished in several ways: By insects and bees, by the wind which carries the minute pollen grains for considerable distances, and in cases where the cotton varieties are grown close together, by the splashing of raindrops.

For all practical purposes, if one variety of cotton is removed from another by only a few hundred yards, no great amount of mixing will take place, particularly if they are separated by another crop, as corn or the like. But to be absolutely sure that there will be no mixing between two or more varieties of cotton it would be well to take precautions by planting them at least a mile apart.

Because of this tendency for cotton to mix by cross-fertilization, great care should be used in buying or selecting pure seed. If possible, pure seed of a certain variety should be bought or selected from a region where only that variety of cotton is grown. If resort must be made to a region where more than one variety is grown, care should be taken to ascertain the proximity of another field of cotton of a different variety to the field from which the pure seed is selected. Above all, try to buy pure seed from persons whose word can be depended upon.

Particularly should communities now entering into the era of cotton raising give this mixing tendency of cotton some thought. Some sections of southern New Mexico are raising cotton this year for the first time and on quite a large scale. We frequently find that several varieties of both long and short staple cotton are being grown almost side by side, with no apparent thought for the future. What are the growers going to do for pure cotton seed for the years to come? It may be possible to keep individual fields of cotton pure, providing the necessary distance between fields of different varieties is maintained. But how about ginning these different varieties? In spite of the utmost care is it not likely that a few seed of one variety may become mixed with the seed of another variety when all are taken to the same gin? Even though great care be taken to clean the gin after the ginning of each variety, there is still a chance that some seed may become mixed.

Another thing, as long as a community is raising several varieties of cotton, the farmers will never be able to demand or even expect so good a price for their crop as would be the case were only one particular variety grown. If outside buyers come to know the Mesilla valley, or any locality, for one single variety of cotton and to know absolutely that it is pure and unadulterated, they will not hesitate to bid a fair price for the crop. But if farmers in different parts of the valley are growing several varieties of cotton and contemplate selling it in one lot, who will want to bid a fair price on this mixture?

On the other hand, if the different varieties are sold separately, will it be possible to realize a maximum price for the crop? To the cotton growers then, particularly of the newer cotton regions, get together, gentlemen, and decide among yourselves which is likely to prove the best variety of cotton adapted to your region and then grow that variety and improve it till it becomes known thruout the land as a cotton par excellence for that variety. It is difficult to predict as yet just which variety will prove the best suited to New Mexico, but it would be well to bear in mind the fact that the Durango variety of cotton has made an average yield of 1.35 bales per acre, each of the three years it has been grown at the New Mexico Agricultural Experiment Station.

A PLANT OF DURANGO COTTON AFTER FIRST PICKING OF 40 BOLLS.

DONALDSON RYDER.

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Work on the community cannery in Bernalillo county has been somewhat hindered on account of delay in the arrival of materials, but the ladies are enthusiastic and are planning to have the cannery ready for the canning of meats for the winter.

# FALL IRRIGATION

THERE are five contributing factors to successful plant growth. These are light, heat, water, soil texture and plant-food; and their relative importance is very much as in the order given. The first two cannot be controlled under field conditions, but in the irrigated regions the last three may be controlled by the proper application of water and skillful cultivation.

Plants obtain their water entirely thru the roots and, therefore, a well developed root system is of primary importance to the well being of the plant. This development may be aided by the mode of applying water, by fertilization, or by tillage. Cultivation, by producing a tilth or mulch, renders the soil much more open and porous, and allows the irrigation water to enter the soil much more easily, and diminishes the loss by flow-off, and also by evaporation from the surface.

### How It Affects the Soil.

Fall irrigation has proven that the crop grown the following season is largely benefited by the practice, the assumption being that the added moisture is retained until spring when the plants need it. While there is a great deal of truth in this theory, there is another factor to be considered, and that is the chemical and physical effect of the moisture in the soil on the plant-food stored therein. Water added in the fall distributes itself in the usual way thruout the soil to a considerable depth. The soil water film remains in intimate contact with the soil particles and the plant-food in these particles is dissolved and distributed thru the water until at planting time the water is a very nutritious medium for plant growth.

In general, fall irrigation, if late enough, results only in good. In some localities, it is the practice to plow the land before irrigating, and thereafter creating and retaining a mulch to prevent too rapid evaporation from the surface. This procedure is of benefit in maintaining a proper soil texture. If, however, the soil washes easily, the land should not be plowed, but should be irrigated and allowed to lie until spring, or such time as tillage may be done without puddling the soil. Sufficient moisture may be retained in the soil following fall irrigation to completely germinate the seed planted in the spring, thus delaying the time of the first irrigation, and by so doing, the plant is enabled to establish a stronger root system than would be the case were the moisture largely in the top layers of soil where it would be readily accessible to short roots.

If the first irrigation is made before the plant appears, the hard crust that forms on the surface may prevent the plant from coming thru, and if it is necessary to irrigate while the plant is young and tender, the cracking of the drying soil may injure the crown growth and delicate stalks.

E. L. BARROWS.

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## HAVE YOU POULTRY FOR SALE?

Do you have a surplus of a good laying strain of vigorous pure bred poultry? If you will list them with the Poultry Department, State College, N. M., it will help carry on the cause of more and better poultry in New Mexico. Any information you can give regarding color, type, etc., with your prices, and name of breeder from whom your original stock was bought, will save time and be greatly appreciated.

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The millinery project is again receiving the attention of the farm bureau women. At one community meeting in Union county four new frames were made, velvet was dyed for two hats and feather trimmings made for four. This work represents a substantial saving in the family clothing budget.

# Eradication of Bermuda Grass

BERMUDA grass is one of the most valuable grasses in southern and central New Mexico, wherever sufficient moisture is available. Its habit of growth and means of reproduction make Bermuda grass one of the worst garden and field pests in certain sections. It will often gain control of a large area in a very short time.

Bermuda grass will grow on practically any type of soil where a reasonable amount of moisture is available. On the alkali land along the river beds it does well, even tho the water level is only a few inches from the surface. On soil too sandy for common weeds to thrive it may be found, and it does well on practically all soils on which other vegetation grows, yet it does its best on the more fertile clay loams.

### Reproduces in Three Ways.

Bermuda grass reproduces by three distinct means. The underground rootstocks force their way in all directions, and by throwing up new shoots from each joint they rapidly cover a large area. They may also be broken off with tillage implements and carried long distances. Another method is by the creeping stems on the surface. These reproduce from any of the numerous joints and may be scattered even more readily than the rootstocks by the same means. Livestock may carry portions of the plant on their feet in muddy weather, and the stems are often washed down irrigation ditches and take a hold in some growing crop. Probably the less important means of reproducing in New Mexico is by the seed, due to the fact that only in certain sections are the seed viable. Where viable seed are produced, they may be scattered by any of the above means, by the wind, birds or thru other seed at seeding time.

### Weaknesses of Plant.

Bermuda will not stand continual shade, excessive dryness or extreme cold. By taking advantage of these weaknesses of the plant, one or more simple methods may be used to eradicate it.

The grass should be plowed shallow in the summer, care being taken to turn the sod completely over. This process should be followed by disking at regular intervals, every two or three weeks during the remainder of the summer. Crops that shade the ground thoroly should be planted the following season; oats, millet or sorghum are very good.

Another method probably as thoro, and more popular because the use of the land is not lost during the summer, is to plow the land as soon as the frost has killed the surface growth of the grass. This plowing should be very shallow, yet thoro, being careful to turn the sod completely over. Freezing will kill more of the roots, and disking and working up the sod for the following years' crop will kill most of those that remain.

Often Bermuda grass will become dense around shrubs and other places that are not accessible with a plow. Here it will be necessary to spade the surface to a depth of about four inches. As soon as the sod is dry the rootstocks should be raked and burned. In loose soils where the roots penetrate it to any extreme depth it is often practical to cover small areas with tarred paper or other material that completely excludes the light. This method is practical only on small areas around plants or places where it is not possible to turn the soil.

GEORGE B. QUESENBERRY.

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The dress form fever seems to have struck New Mexico. Calls for the form are coming from all quarters. At the fair in Albuquerque a very skillful demonstration by a team of five local ladies was witnessed by about 300 people. These ladies gave the demonstration unassisted and talked as they worked. Several women say they never enjoyed making a dress until they had a dress form.

# Final Report of Egg Laying Contest

## NOVEMBER 1, 1919, TO OCTOBER 31 ,1920

The first New Mexico egg laying contest closed October 31. Due to continued molting only 22 hens laid eggs during October. The total number of eggs laid was 206 or an average of 9.4 eggs each for the 22 hens. The highest pen laid an average of 9 eggs and the lowest pen laid an average of less than one egg.

The highest record, 223 eggs for the year, was made by a White Leghorn hen. She lacked two eggs of meeting the requirement for advanced registry. Two other hens made records within five of the 190 eggs, the certificate of registry requirements. The yearly average for the 50 contest hens was 124.3. The 5 Campines averaged 81; the 5 Rhode Island Whites, 108.4 the 15 barred Plymouth Rocks, 120, and the 25 single comb White Leghorns, 141.2.

The following table gives names and addresses of the contestants and the breeds and yard production of their hens.

**Pen Production for Year:**

| Rank | Owner | Breed | Production For Pen of Five Hens | Award |
|---|---|---|---|---|
| 1 | Gentry Poultry Farm, Albuquerque, N M., | S. C. White Leghorn | 809 | Silver Cup |
| 2 | G. G. Gilmore, Roswell, N. M., | S. C. White Leghorn | 795 | Bronze Plate |
| 3 | G. Soulard Turner, Central, N. M., | S. C. White Leghorn | 695 | Diploma |
| 4 | Julius A. Ferguson, El Paso, Texas, | S. C. White Leghorn | 631 | |
| 5 | Neil Saunders Wheeler, Roswell, N. M., | B. Plymouth Rock | 626 | |
| 6 | C. B. Allaire, San Antonio, N. M., | B. Plymouth Rock | 616 | |
| 7 | Henry Holland, Rogers, N. M., | S. C. White Leghorn | 599 | |
| 8 | Harley E. Caldwell, Canutillo, Texas, | R. I. White | 542 | |
| 9 | Mrs. Sam Stovall, Roswell, N. M., | B. Plymouth Rock | 498 | |
| 10 | Mr. K. Roehrs | Silver Campines | 405 | |

# HOME ECONOMICS

## "SACKED"

WHEN Anne started housekeeping her grandmother gave her several dozen new flour sacks—many more than she would need for a long time for tea towels. She wondered what she could ever use them for. A few days ago I visited Anne and found the sacks disguised and in use all over the house.

"Well," said Anne, who is a very intimate friend, "you see, Jim and I have to be economical. We can't afford expensive things, but still I want my house to look pretty and attractive. So it was 'up to me' to use what I had. All I had plenty of was sacks, but they were so white and snowy I just decided to put them to work and not put my money into more expensive things just now. Come, let me show you what I did with them—and a little time."

So we went thru the house. In the kitchen at the short windows were small sash curtains of sacking. Along the lower edge was an attractive row of sauce pans stenciled in blue. At the large window was a larger sash curtain made similarly. Leaving the kitchen we went into the bedroom. Along one side of the room was a group of rather short windows, each curtained with sacking. These curtains had been hemmed and borders made by running in long stitches of different colors. On the dresser was a dainty runner with a cross stitch all around to hold the hem and a design in cross stitch at each end.

In the dining room I admired a pretty luncheon cloth made from a large sack, blanket stitched in color around the edge with a simple but effective pattern appliqued in each corner. These designs had been made from scraps of material left from aprons and dresses.

"If you like that," said Anne, "let me show you something else," Pulling open the drawer of the buffet, she took out a tablecloth, snowy white and dainty, made by sewing together, with very tiny felled seams, four sacks. Over the seams she had done a neat cross stitch in a delicate color. The edges were blanket stitched in the same color

"Napkins to match?" I asked. "Of course." And out came six squares, soft and white, each finished similar to the cloth and in one corner a small design in cross stitch. She showed me another small cloth with a simple crochet around the edge.

"I suppose those draperies over your white curtains are sacking too," I said, amazed at the possibilities of that homely material.

"How did you guess? Yes, just narrow strips put together with a fancy stitch, fagotting on these, and then I dyed the whole thing. Do you like them?"

"Anne, you're a wonder!"

"No, but grandmother was, to save all these sacks for so many years. She must have known I'd be needing them some day. She's coming to visit me soon; won't she be surprised?"

Of course she was.

LUELLA MADSON FOSTER.

# FARM BUREAU

## DISTRICT CONFERENCES HELD

A series of extension conferences were held last month at the following places: Raton, November 4; Albuquerque, November 5; Clovis, November 6, and State College, November 9. These conferences were attended by the county extension workers and farm bureau presidents of the respective districts. The Extension Service of the State College was represented by C. F. Monroe, director of extension; W. L. Elser, assistant to the director; Mary B. Richardson, state home demonstration leader; R. G. Foster, state club leader, and J. V. Hepler, assistant county agent leader. R. C. Reid of Dexter, N. M., president of the New Mexico Farm and Livestock Bureau, attended the conferences in Raton, Albuquerque and Clovis.

The forenoon of each day was spent in a discussion of the office work with regard to record keeping and writing the annual reports by the county extension workers. The afternoon was spent entirely in a discussion of the Farm and Livestock Bureau work, regarding organization and membership from the county, state and national standpoints. The community and county standpoint was discussed by the county farm bureau officers, and the state and national side was very ably discussed by Mr. Reid.

The outcome of the conferences indicates that the farmers of the state are interested in building up their county farm bureaus in order to develop a strong state organization, so that New Mexico will be able to line up alongside of the other states in the union in the support of the American Farm Bureau Federation.

Membership campaigns will be put on in practically every county in the state, with a membership fee of from $2 to $5 per year. A conservative estimate of the members to be secured, places the number around 4,000 for 1921. The Farm and Livestock

Bureau reorganization work and membership campaigns will be put on during the months of November, December and January.

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### SOME WORK DONE BY THE AMERICAN FEDERATION OF FARM BUREAUS

Voted to demand the return of the railroads to private ownership, which congress did.

Voted for legislation for the federal control of all large purveyors of foodstuffs. Attended hearings before agricultural committees of congress and gave testimony for packer legislation.

Legislative office opened at 1411 Pennsylvania avenue, N. W., Washington, D. C.

Attended hearings of agricultural committees of congress asking for sufficient appropriations for United States Department of Agriculture.

Attended hearings of congressional committees asking for the passage of a truth in fabric law.

Attended hearings relative to congress developing the Muscle-Shoals nitrogen plant for the manufacture of fertilizer.

Secured the passage of a standard basket and container law for farm produce.

Attended hearings asking for the increasing of the size of loans by the federal land banks.

Secured the backing of the federal reserve banks in the financing of the wool grower by recognizing the wool warehouse receipts and bills of lading as collateral upon which the local member will loan money.

Worked for a collective marketing bill known as the Capper-Hersman-Volstead bill which passed the house and was voted out to the floor by the senate.

Secured quarantine rule for the control of the European corn borer.

Employed a competent attorney to investigate proposed railroad rate increases and to present the voice of the farmer to the Interstate Commerce Commission for needed increase that would provide adequate service to the shipper, instead of placing the needed increase on freight alone. The American Farm Bureau Federation maintained that the passanger, Pullman and express divisions of the railroad should bear the increased cost of operating their own departments, which was allowed and will save the farmers a large sum that would have gone to freight to pay the additional increase in freight rates.

Working on the car shortage. Investigation was made by the American Farm Bureau Federation and it was found that the railroads were giving a freight rate on wheat from Duluth to Buffalo that made it unprofitable for the grain boats to operate. On the other hand, the freight rate from Buffalo to New York was enough in excess to make up the loss of freight from Duluth to Buffalo. This matter was taken up with the Interstate Commerce Commission and a readjustment made, whereby the grain boats could again operate, thus releasing over 100,000 grain cars for use in moving the wheat from the congested points in the middle west wheat states.

Conducted a referendum on a proposed land tax bill that provided for an excise tax of 1 percent on all land holdings above $10,000. The result of the vote from 545 counties of 19 states showed 2,261 votes in favor of the bill and 356,601 votes against the bill.

Assisted in starting farm bureau organization work in Wisconsin and the perfecting of the Wisconsin Farm Bureau Federation.

Represented at meetings in the following states: New York, Michigan, New Hampshire, Connecticut, Pennsylvania, Wisconsin, Alabama, Louisiana, Massachusetts, New Jersey, Texas, Iowa, Illinois, Nebraska, Missouri, Kentucky, Tennessee, North Carolina, West Virginia, Indiana, South Dakota, Colorado, Kansas, Utah, New Mexico, Arizona, Minnesota, North Dakota, Washington and Idaho.

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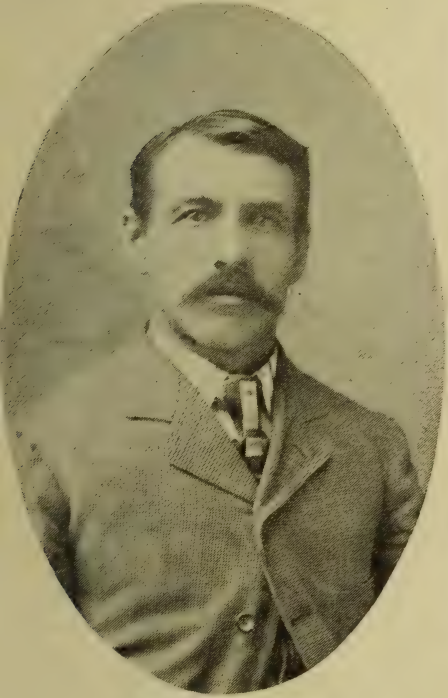
One community in Union county has reported over 1,000 quarts of vegetables canned, besides the fruit and pickles put up.

# "Who's Who" Among Farm Bureau Presidents

## ANDREW SICKLER
### of Valencia County.

When the Valencia County Farm Bureau was organized last May, they elected as their first president Andrew Sickler of Los Lenties. Mr. Sickler as a young man came to the United States from Germany in 1882, coming almost directly to Valencia county.

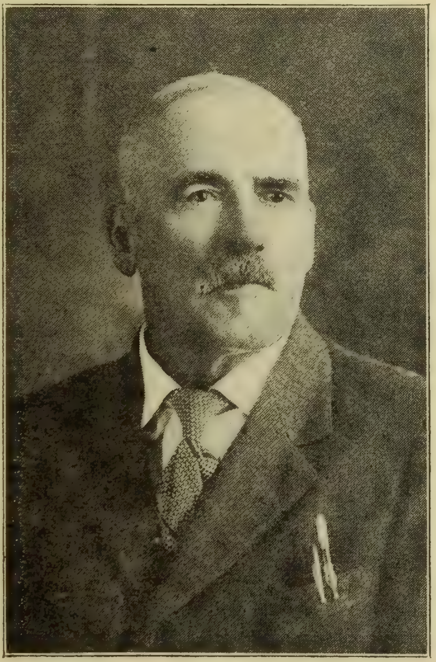


ANDREW SICKLER
of Valencia County

Mr. Sickler is interested and practices general farming and fruit growing and has one of the best orchards in Valencia county. He is also a breeder of good Duroc Jersey hogs, Jersey cattle and horses. Besides having made a success at farming, he has raised a fine family of 11 children, and is a hard worker for the organization farmers, the standardization of their products and for more efficient distribution.

## W. F. CALHOUN
### OF SAN MIGUEL COUNTY

W. F. Calhoun, president of the San Miguel Farmers' and Stock Growers' Bureau, is one of the pioneers in dry farming in San Miguel county. When he settled on a dry farm four miles east of Last Vegas 13 years ago, land such as he occupied was considered worthless for anything but grazing purposes. He has, however, proven himself equal to the peculiar conditions under which dry farmers must operate and with very few exceptions has been growing large crops ever since.



W. F. CALHOUN
of San Miguel County

Mr. Calhoun is enthusiastic over good horses and hogs, his favorite horse being the Percheron and his favorite hog the Duroc Jersey. He believes that it pays to feed well and a glance at his stock will convince one that they eat a well-spread board. He grows a variety of crops and is a successful grower of sweet clover under dry farming conditions, generally cutting two crops each year. He considers this the best forage crop that can be raised under dry farming conditions in his section.

Mr. Calhoun is running his 400-acre farm almost entirely without help, yet he always seems to have time to do his share in community work. He is one of the backers and a member of the board of directors of the Farmers' Exchange, which has been operating very successfully. He is a good business man and a valuable farmer to his community, because he can approach a meeting of business men and represent the farmers' side of any question.

### S. D. HAMILTON OF DE BACA COUNTY

When the De Baca County Farm Bureau was organized last year it selected S. D. Hamilton as its first president. Mr. Hamilton has been a skilful demonstration by a team of and was one of the delegates who organized the State Farm Bureau last January. He is one of those who realize that cooperation is necessary to get desired results.

Mr. Hamilton farms in an extensive way. He produces honey for the commercial market and places a good product on the market. He has a good start in Holstein cattle and intends to continue to improve the quality and increase the size of his herd. While like a great many others he has not gotten rich farming, he is a fine fellow, well liked by his neighbors and is always ready to boost for a good thing.

### MRS. EDITH SALISBURY VISITS NEW MEXICO

Mrs. Edith Salisbury, assistant in charge of work with women, from the Washington office, spent some time in New Mexico the latter part of October. The purpose of this visit was to observe the methods followed by the women in developing their part in the farm bureau program of work. She visited Chaves, Union, Colfax, Bernalillo and Dona Ana counties, where conferences were held with project leaders. The project leaders reported the plans and progress made on work for their communities. Much work has been done on poultry, community canners, the paper dress form, remodeling and household conveniences.

Mrs. Salisbury made many helpful suggestions for future work in New Mexico.

The women of Dona Ana county have begun the installation of electric washers

## BOYS *and* GIRLS' CLUBS

### BESS WRITES ABOUT STATE DEMONSTRATION WORK

Dear Sue:

I'm the luckiest girl! You know I told you about that demonstration contest that was going to be at State College, October 30. Well, I never supposed I'd be there, but mother said I could go and so I did. On the train were some club girls going down to take part in the contest and they told me all about it and how they got the trip because they were the best team in their county.

We got to the college Friday night. Then on Saturday the contest came off. Three girls from Torrance county gave a demonstration on "Setting the Table." They said their club work had made it easier to help at home and work seemed more fun, too.

After that, three girls from Colfax

county demonstrated "Preparing and Serving Breakfast." They did it so quickly and it looked so good, I wished I'd been one of the judges so I could have tasted it. When this was over, the team from Curry county came in. They gave quite a talk on "Preparing and Serving Foods to Convalescents." Anyone could almost wish to be sick if she could have the good things they made—cocoa and gelatin with whipped cream and poached egg on toast! Any they put the prettiest pink rose right on the tray so the patient would smile and be happy—because that helps to make sick folks well, so the girls said.

The last demonstration was on "Cutting a Nightgown Pattern" by a team from Torrance county. If I could cut a gown that quick and not make a mistake, just think how much I could help mama. They said they could use the same pattern for making aprons and smocks, too. That would save buying patterns, wouldn't it?

Well, everyone was just so curious to know who got first place. The judges were three people from the college, but they wouldn't tell until after supper. Then we all went over to Mr. Foster's house and had a good time and at last found out who the winners were. Curry county got first, each of the girls had to make a little speech. They were Leah Carter, Olga Carter and Annie Gamble. I was going to tell you the names of all the others too, but I almost forgot. On the Torrance county cooking team were Donnie Addington, Maybelle Harper and Gladys Godfrey; on the Torrance county sewing team were Donnie and Dovie Addington and Maybelle Harper. The Colfax team were Eunice Lapp, Solana Lapp and Edith Bolinger. Those who didn't win all said they were going to win next year.

Just think! The Curry county team goes to the Denver Stock Show January 15-22 and is going to demonstrate there. I hope they win first for New Mexico—surely they will if they do as well as they did here.

Susie, I tell you one thing and that is, I'm going to be a club member next year so I can do some of these things.

Lots of love,
BESS.

## QUAY COUNTY TEAM WINS JUDGING CONTEST

The Quay county team won first place at the non-collegiate livestock judging contest held at State College, October 30, and will represent New Mexico at the judging contest to be held at the International Livestock Exposition at Chicago to compete for national honors. The members of this team are Mont Hall, Ola Welsh and Charles Miller. The three highest individuals who will represent New Mexico in the judging contest to be held at Denver during the Western Livestock Show are Mont Hall and Ola Welsh of Quay county and Rodney McGuin of Colfax county. Mont Hall was the highest scoring individual.

This judging contest was open to all boys and girls under 19 years of age, representing the various agricultural high schools, rural consolidated schools and boys' and girls' clubs. Promptly at 9 o'clock Saturday morning Director C. F. Monroe, who was superintendent of the judging contest, instructed the boys represented in the contest and work on the different classes of livestock begun. Classes of horses, cattle and hogs were brought into the ring and placed by the contestants. In the afternoon each contestant gave the reasons for the placings that he made in the morning.

The judges of the contest were Albert Mitchell of Albert, N. M.; Director C. F. Monroe of the extension division, and Prof. J. L. Lantow of the animal husbandry department. The New Mexico Cattle and Horse Growers' Association has advanced $300 towards paying expenses of the trip to Chicago, and the Western Livestock Show Association has agreed to pay the expenses of the team that is to go to Denver.

This was the first contest of its kind ever held at the agricultural college, and while the number of teams represented was not as large as it might have been, the judging done by the boys was very good, and the winning teams should make a very creditable showing at Denver and Chicago. The outcome of these contests will be watched with a great deal of interest.

**Live Stock Judging Team from Quay County which won first place in contest held at State College and which will represent New Mexico at the National Non-collegiate contest to be held at International Livestock Exposition at Chicago.**

### STATE CLUB LEADER RESIGNS

R. G. Foster, state leader of boys' and girls' club work in New Mexico has resigned his work in this state to accept a position with the Washington office as assistant in charge of club work in the western states. His new duties will begin December 15.

Mr. Foster was local and county club leader in Colfax county for three years before he took up his work as state club leader after graduating from the New Mexico Agricultural College in 1919. In his new position he will have his headquarters at Washington, D. C., but will do most of his work in the western states. He will have general supervision of club work in Arizona, California, Colorado, Idaho, Nevada, New Mexico, Montana, Oregon, Utah, Washington and Wyoming.

It was because of the efficient manner in which Mr. Foster has conducted club work in New Mexico that he has been called into the larger field. While New Mexico is unfortunate in having lost such an able leader as Mr. Foster, in his new position his influence will be even more widely felt.

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# THE NEW MEXICO FARM COURIER

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BUTCHERING DAY ON THE FARM IN QUAY COUNTY

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R. W. CLOTHIER, President of College.
FABIAN GARCIA, Director of Experiment Station.
C. F. MONROE, Director of Extension.

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L. H. Hauter.............Extension Editor

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W. H. Sawhill, Colfax Co., Raton.
E. Peterson, Curry Co., Clovis.
D. F. Laubmann, De Baca Co., Fort Sumner.
J. B. Peterson, Dona Ana Co., Las Cruces.
————————, Eddy Co., Carlsbad.
————————, Grant Co., Silver City.
Stuart Stirling, Lincoln Co., Carrizozo.
A. C. Heyman, Luna Co, Deming.
H. P. Powers, McKinley Co., Gallup.
Louis Kronig, Mora Co., Wagon Mound.
J. W. Ware, Otero Co., Alamogordo.
E. M. Yates, Quay Co., Tucumcari.
————————, Roosevelt Co., Portales.
————————, Sandoval Co., Bernalillo.
J. M. Ramirez, Santa Fe Co., Santa Fe.
H. S. Moles, San Juan Co., Aztec.
Lorin F. Jones, San Miguel Co., E. Las Vegas.
P. J. Smith, Sierra Co., Hillsboro.
H. M. Aragon, Taos Co., Taos.
J. G. Hamilton, Torrance Co., Estancia.
E. C. Hollinger, Union Co., Clayton.
R. S. Conroy, Valencia Co., Los Lunas.

#### State Extension Specialists—State College.

Dr. E. P. Johnson, Veterinarian.
C. A. McNabb, Marketing.

#### Boys' and Girls' Club Work.

W. H. Trentman, Asst. State Leader, State College.
Herman Fauber, Colfax Co., Raton.
Edna Hume Durand, Curry Co., Clovis.
C. C. Head, Quay Co., Tucumcari.
————————, Torrance Co., Estancia.
A. L. Tarlton, Union Co., Clayton.

#### County Home Demonstration Work.

Mary B. Richardson, State Leader, State College.
Maud Doty, Bernalillo Co., Albuquerque.
Leah Harris, Colfax Co., Raton.
Sarah Van Vleck, Dona Ana Co., Las Cruces.
Edith M. Hurley, Union Co., Clayton.

# EDITORIALS

## WHY THE NUMBER OF FARMS DECREASE

In 1920 there were 88,496 more farms in the United States than in 1910, an increase of only 1.4 per cent. Twenty-four states, mostly in the west and south showed an increase, while twenty-five states, mostly in the middlewest and east showed a decrease. The number of farms in New Mexico decreased from 35,676 to 29,841 which is a decrease of 16.4 percent. Most of the states that have a great deal of undeveloped land showed an increase but in practically all those states where agriculture has been well developed and most of the available land improved, the number of farms decreased.

Contrary to a common belief, a decrease in the number of farms and farm workers in a country where agriculture is well established, may be a healthy sign. If it is due to abandoned farms because they are too unproductive to be kept in cultivation, it may not speak well for a community or state, but even then it may be better for the country as a whole that enough can be produced on the better land so that the very unproductive lands need not be used for intensive cultivation.

But it is in some of the best sections of the country where the number of farms and number of workers have decreased. This is not due to abandoned farms but due to greater efficiency on the part of the farmers. Present prices of agricultural products certainly do not indicate that there is any underproduction of agricultural products. If the modern farmer with the aid of improved machinery and improved methods can handle a larger acreage and produce as much as two farmers did a few years ago, it is to the best interests of the farmers themselves and to the country as a whole that part of the farmers leave the farm.

In New Mexico the decrease appears to have been due partly to the earlier taking up of government lands under the 160-acre homestead act for dry farming purposes which later proved better adapted to grazing or at least to handling in larger tracts. The fact is that this homestead act was not adapted to New Mexico conditions, and while it may be unfortunate that we do not have sufficient rain so that a farmer can be placed on every 160 acres, since we do not have this rain, it is fortunate that earlier mistakes are being corrected and these tracts combined in such sizes as will result in the most efficient production. New Mexico still has more farms than Utah, nearly twice as many as Wyoming and nearly three times as many as Arizona. It is not so much the number of farmers as their prosperity that counts.

## NEW MEXICO FARM COURIER DISCONTINUED

**In the past it has been possible to publish the New Mexico Farm Courier thru the use of the state and federal funds. Because of a shortage of the former, it will be necessary to discontinue the publication, at least temporarily, with this issue.**

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## THE INCOME TAX RETURN

Two different methods of making out income tax returns are being used by farmers and are acceptable to the Bureau of Internal Revenue. The first is the "accrual inventory method" which determines the net income by finding the difference between the inventory at the beginning and end of the year along with the difference between receipts and expenses, including depreciation on buildings and machinery. The second is the "cash receipts and disbursements method" by which the net income is determined by finding the difference between receipts and expenses, including depreciation on machinery and buildings—and if one cares to, also depreciation on work and breeding stock purchased—and also deducting from receipts the cost of any livestock sold if it was purchased at some previous time.

The accrual basis is the simpler and fairer of the two after it has once been started. Depreciation or losses on livestock are taken into account in the year in which they occur, and the value of supplies and farm products at the beginning and end of the year are taken into account. This makes it possible to credit the actual profits of a year's business to the year in which the profits were made, and completes each year's record at the close of the year, so furnishes an excellent record from which to study the year's business.

With the cash receipts and disbursement method one might sell his crops in January one year and in December the next, thus throwing the returns of two years' business into the one year. The man with a $2,000 average income who ordinarily would not have an income tax to pay may show no net income one year and a net income of $4,000 the next, and would therefore have to pay an income tax on the $2,000 the second year. This would of course be unfair, yet with the cash receipts method such cases are likely to occur.

It is unfortunate that for those who in the past have been making their returns on the cash receipts basis and who desire to change to the accrual basis, it is necessary that all livestock and products on hand and raised on the farm are included among the net returns in the year the change is made, unless adjustment to January 1, 1915 is made from records or proof satisfactory to the Commissioner of Internal Revenue. For one who carries over a large inventory of livestock and other products from one year to the next and who is not able to make adjustments back to 1915 this places a rather heavy cost on making the change.

The advantages of the accrual method are so great, however, that where possible the change should be made. With present prices the net income of many farmers have been greatly reduced Many farmers who ordinarily have a considerable income tax to pay will have none to pay this year, and in such cases it may be possible for them to make the change at a very small or perhaps no cost. It would be well for those who have been using the cash receipts basis and who desire to make the change to get in touch with their county agents and learn just how this may be done.

# Cost of Spraying for the Codling Moth

SPRAYING ON THE COLLEGE FARM

What would it cost per tree to spray for the codling moth? How much time would it take to spray my twelve hundred trees, and cost of necessary apparatus?

What I am trying to figure is, baring frost, after paying the cost of producing the crop, would there be any profits left.

J. B. B., El Paso, Tex.

It would be almost impossible to give you absolute costs of any operation in these days of fluctuating prices of labor and materials. However, I can give you a table showing the time required and amount of material used for spraying certain numbers of apple trees, for different years, by the horticultural department at the college. From this table you should be able to get a very good idea of the cost of sprayinig. The number of trees sprayed is multiplied by the number of times sprayed and the data combined as one spraying.

| Year | Total No. of Trees Sprayed | Time For Spraying | Pounds of Lead used Dry Form | Gal. of Water Used | Age of Trees Years | Av. dimension of Trees; Height Feet; | Width Feet |
|---|---|---|---|---|---|---|---|
| 1913 | 180 | 9 Hours | 25 1-2 | 850 | 12 | 15 | 14 |
| 1914 | 411 | 23 Hours | 37 | 1235 | 11 | 15 | 12 1-2 |
| 1914 | 681 | 14 1-2 Hours | 36 1-2 | 1215 | 7 | 13 | 9 |
| 1915 | 495 | 19 Hours | 45 | 1498 | 12 | 15 1-2 | 13 |
| 1915 | 667 | 22 Hours | 67 | 2220 | 8 | 13 2-3 | 9 1-2 |
| 1916 | 436 | 15 1-2 Hours | 57 1-3 | 1915 | 9 | 14 | 10 |
| 1917 | 834 | 14 1-2 Hours | 55 1-3 | 1865 | 10 | 14 | 10 1-2 |
| 1919 | 920 | 28 Hours | 49 | 1695 | 12 | 14 1-4 | 10 1-2 |
| 1920 | 668 | 27 Hours | 85 1-2 | 2840 | 13 | 14 1-4 | 10 2-3 |
| Totals, | 5292 | 172 1-2 Hours | 458 | 15333 | | | |

Quite a variation will be noticed in the time required and amount of material used per tree for different years. The work was done by Mexican laborers who changed quite frequently. The spraying machinery was also changed three times. In 1916 about twice as much time and material were used per tree as in 1917.

The spraying was all done with power sprayers with two leads of hose with nozzles, and with from 180 to 250 pounds of pressure until this past year. The work in 1920 was all done with a single "spray gun" and with from 250 to 300 pounds of pressure.

Five thousand two hundred and ninety-two trees were sprayed in 172½ hours with 15,333 gallons of material and 458 pounds of powdered arsenate of lead; 172½ hours for two men at 20 cents, and one man at 25 cents would equal $112.12. Four hundred and fifty-eight pounds of arsenate of lead at 35 cents equals $160.30. Total $272.42.

This does not include anything for cost of your spraying outfit and team. In 1920 it only took two men to run the outfit with the spray gun.

It took an average of about three gallons and about two minutes time to spray each tree, and cost about 5 cents per tree for labor and material for one spraying. If you sprayed six times it would cost 30 cents per tree.

You can get a power sprayer that will give you from 250 to 300 pounds pressure with two leads of hose and double nozzles, or with one spray gun (where the disc is not too coarse), for about $450. The cost of barrel sprayers range from $50 to $100.

A. B. FITE.

# Cooperative Marketing

THE country seems to have "outgrown" the methods under which the products of the soil have been marketed for many years past. The spread between the amount the producer receives for his products and the amount the ultimate consumer must pay for them has become too great.

We do not think the middle man is to blame for the situation, for more and more we have come to depend upon him and his facilities and with each turn of the wheel, more is expected of him.

Just what our future market practices may be is problematical. We can not summarily dismiss the middleman and say "begone!" and continue to supply the ever increasing needs and demands of the consuming public, unless we substitute some effective means of doing the things we now depend on the middleman doing for us as our products pass thru the arteries of trade.

In some cases where production of a single commodity reaches sufficient importance in a community, the producers, if so willed, can economically dismiss the middleman thru the medium of cooperative organization, for receiving, storing, grading, packing, and shipping of such a commodity, but again they must depend upon the services of middlemen to take up distribution at least until such time as consumers organize and equip for cooperative purchasing, storing and distribution.

In keeping with the spirit of the times, there has developed a decided displeasure on the part of both producer and consumer, and a very marked turn toward cooperative effort is developing thruout the country—a demand on the part of both that expense be pruned that they both may live.

If the reader has given but little thought to cooperative sale and purchase in the past, be he producer, consumer or middleman, a change of front is advisable if there is a desire to keep up with the procession of events.

C. A. McNABB

# Curing Pork

THE carcass should be thoroly cooled before cutting up and salting. The cooling is usually sufficient if the hogs are slaughtered in the afternoon and are allowed to hang over night in a cool place. There should be no chance of the surface freezing. A temperature from 35 to 45 degrees is about right. A cool room where there is no odor of fresh paint, kerosene or gasoline makes a good place. Fresh pork absorbs odors very readily, which may destroy the naturally pleasant pork flavor.

A clean hardwood barrel that does not leak makes a suitable vessel in which to salt down the pork. Stone jars are best because they are so easily kept clean, but the expense is too great excepting in small quantities.

### Standard Recipes

Brine curing is usually safer and more convenient than the dry method. Bacon, hams and shoulders should be thoroly rubbed with salt and be allowed to stand over night to drain before being put into the brine or salted down.

For sugar curing use 8 pounds of salt, 2 pounds of brown sugar and 2 ounces of salt peter to 4 gallons of water. This should be enough for 100 pounds of meat. In warm weather 10 pounds of salt and 2 1-2 pounds of sugar are safer. Sorghum or other molasses may be substituted for the sugar. After putting the salt and other ingredients into the water boil and remove any scum that appears. Allow the brine to cool before covering the meat with it.

Pack the hams and shoulders in the bottom of the container fitting them as closely together as possible and lay the bacon on top, skin side down except the last layer. Pour the brine down the side instead of over the meat. Place a weight on top and keep the brine standing well over the meat at all times.

The length of time for sweet pickle curing depends upon the weight of the pieces and the temperature. Bacon from 200 to 250 pound hogs takes from 25 to 30 days, shoulders from 35 to 50 days, and hams from 40 to 60 days. Twelve pound bellies will cure in about 25 days. 14 pound shoulders in abount 40 days and 16 pound hams in about 55 days. Overhauling and repacking the meat on the fifth and fifteenth days insures an even and more rapid curing. The same brine is used thruout. Watch the pickle carefully for souring and ropiness. At first sign of spoiling remove the meat, scrub it thoroly, scald the barrel, repack and add new brine. High temperatures promote souring and low retard the action of the brine. Thirty-five to thirty-six degrees Fahrenheit is the ideal at which to aim.

When curing is finished remove the meat and soak from two to six hours in fresh water. This removes the excess salt from the outside layers. String for hanging in the smoke house. Scrubbing with brush and hot water cuts off the old grease and brightens the meat. Hang up to drip for 24 hours before smoking.

### Dry Curing

Dry-cured pork requires more work than brine-cured, and danger from rats and other vermin is greater. Both methods of curing are very successful if care is taken to see that each operation is executed correctly. The following is the method of dry curing: For each 100 pounds of meat use 7 pounds of salt, 2 1-2 pounds of sugar, 2 ounces of salt peter. Pepper may be added to suit the taste.

Mix all ingredients thoroly, then rub one-third of the quantity of this mixture over the meat and pack it away in a box or on a table. The third day break bulk and rub on half of the remaining mixture over the meat and again pack it. Break bulk the seventh day and rub the remainder of the mixture over the meat and pack it to cure. Allow one day and a half cure for each pound the pieces of meat average. After the meat has cured wash each piece with luke warm water and hang in the smokehouse.

### Smoking the Meat

Hang the meat for smoking so that the pieces do not touch. In this locality green apple wood, mesquite or corn cobs may be used for smoking. The apple wood gives a pleasant flavor and perfect coloring. The mesquite is also quite satisfactory. Many like the flavor given by cobs, but in our experience too much carbon was deposited on the meat. A cool, slow smoke, kept up for three or four days is better than too fast treatment. The meat should be at least six feet above the fire. Where only a few pieces of meat are cured at a time liquid smoke proves very convenient and satisfactory.

Smoked meats keep best in a dry, dark, cool, well ventilated place where flies can not get to it. A very satisfactory method is to wrap the meat in paper and muslin, and then bury it in the grain bin.

Salt pork is often made from fat backs containing little or no lean. Rub the meat with salt and let it stand over night as in starting the ham and bacon cure. Put down in a brine containing, 10 pounds of salt and 2 ounces of salt peter to 4 gallons of water. This should be boiled and cooled before putting on the meat. Observe the same precautions as with hams as to the necessity of renewing the brine. Keep the pork in brine until used.

LUTHER FOSTER

# DROPSY IN CATTLE

## (OR BRISKET DISEASE)

FOR several years dropsy in cattle has existed in the higher mountain regions of Colorado, attended with heavy losses of cattle. Efforts have been made to solve this problem by moving the afflicted animals to lower pastures, but this has been attended with only fair success. In some instances cattle were unable to move and consequently they perished.

### Disease Not Contagious.

Dropsy, or brisket disease, is not a contagious or infectious disease. Glover and Newsom (Colorado station) have failed to reproduce the disease after inoculating healthy steers with blood from animals suffering from it. In some cases animals were under observation for a year afterward, but no change was noticed. The disease is caused by the very high altitude acting on or impeding the heart's action. A number of cattle have been lost in the higher regions of Colfax county for several years. These losses were attributed to frozen forage, poisonous plants and natural causes. During the last year, M. J. Heck of the Moreno and Red River ranches lost over 60 head, about 99 percent of the afflicted animals dying.

These conditions were brought to the writer's attention by County Agent Sawhill. During the latter part of last August a report was received that the disease had made its appearance on the M. J. Heck ranch, Red River, N. M. The stricken animals (two heifers), when examined by the writer on the sixth of September, were suffering from dysponae and emaciation. A moist, suppressed cough was in evidence, at the same time there was a reluctance to move and no attempt to partake of food or water. These two calves were considered hopeless and died two days afterward. Several other cases developed, but fortunately were observed in time and taken up for treatment.

### Animals Were Successfully Treated.

The animals to be treated were driven into a chute and given two grains of digitalin and sodium chlorate, five grains (Abbott) hypodermatically, twice a day for three days, then a pause for twenty-four hours, and after this, treatment was carried on for two days and then discontinued. The black scours had disappeared, the animals' appetites returned, all the swellings were gone, their general appearance was better and they were considered strong enough to be driven to a lower altitude. Excellent results were obtained from the digitalin treatment, however, the constant use of this drug will cause diuresis, and if persisted in, will cause fatal results.

Brisket disease is going to be a menace to our livestock industries in the higher altitudes as long as the stockmen bring cattle from the plains or from lower altitudes. I believe if the cattle native to higher altitudes are used the losses will be reduced to a minimum. We were very successful in treating animals with digitalin. As digitalin is a cumulative drug, great care must be exercised in its use or fatal results will follow. In some other states where this disease exists, medicinal agents gave little or no results.

### Difficulties in Treating.

In some of the higher regions of New Mexico, it would be impossible to get afflicted cattle to lower altitudes on account of transportation. The wild nature of these animals is an obstacle that has to be considered. Before an attempt is made to treat an animal, some method should be devised for their control. In this connection, a good chute and corral are recommended. Animals suffering from brisket disease should be handled very carefully as sometimes violent exercise has caused death.

The veterinary department of the extension service will be glad to cooperate with stockmen in helping to control this disease.

E. P. JOHNSON.

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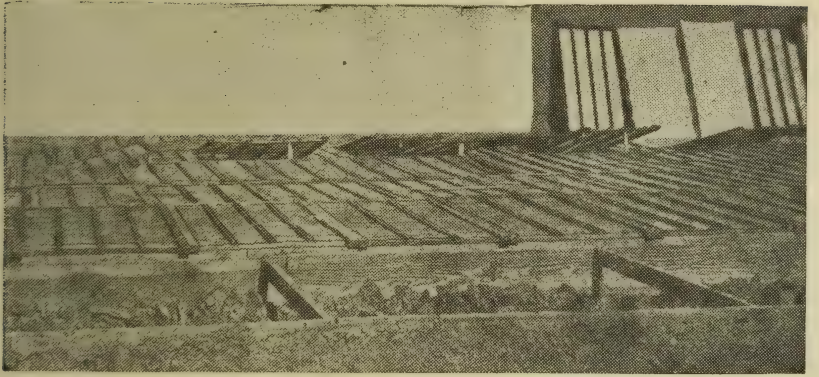
### FOR SALE

One Holstein bull calf, and one Guernsey bull calf. The Holstein calf was sired by Tehee Pontiac of Manse whose Dam has a record of 21,662.1 pounds of milk, and 1,028.97 pounds of butter in one year.



COLD FRAME FOR STARTING EARLY CABBAGE

# Cold Frames and Early Cabbage

COLD frames are essential to the successful production of early cabbage in this section. The construction of a cold frame is simple and need not be expensive.

For a permanent structure, glazed sash and a good grade of lumber or concrete material is required. Cold frame sash whether covered with glass or cloth are 3 x 6 feet. Having sash of this size the frame should be six feet wide, outside measurements, and as long as necessary in multiples of three feet, so the sash may fit evenly.

The frame may be built of one or two inch lumber, concrete, brick or dirt walls. When lumber is used it is often advisable to bank the outside with dirt in cold weather. Always have the long way of the frame east and west with the south side four to six inches lower than the north. As a rule six to eight inches is the height, or depth of the south side, but it may be higher for tall growing plants. When the frame is made of lumber, 2x4-inch braces should be used in placing and removing the sash, as well as to strengthen the frame and to do away with driving stakes for bracing. The cold frame should be located where it will get the maximum amount of sunlight, and also be protected from cold winds as much as possible. There is no better location than just south of an adobe wall. The wall not only shields it from the cold winds day and night, but it tends to reduce the radiation of heat at night.

### Double Thickness of Cloth is Best

When cloth covered sash are used the double thickness has given the best results. The heavy unbleached muslin should be stretched and tacked on both sides of the frame sash, leaving about one or two inches of dead air space between the cloths. The results of an experiment conducted at the Station in 1917-1918, with glass versus cloth, showed there was but little or no difference in the growth of the plants when transplanted to the field February 15th.. The morning temperatures of 1 1-2, 3 1-2, and 10 degrees Fahrenheit for January 21st, 22d, and 23d, respectively, did some injury to the plants. Those plants covered with one thickness of cloth showed a little more injury, but there was no appreciable difference between the double thickness of cloth and glass. If a cloth cover is to be used instead of sash, it would be safer to have it double thickness. One edge of the cover may be nailed to the north plank of the frame, while the other is fastened to a roller. The cover should be wide enough so that when it is put over the frame the cloth will come a little beyond the top of the front plank. The weight of the roller should hold the cloth in place. The frames should be covered up every evening early enough, before there is any loss of heat by radiation, and should not be uncovered too early in the morning or during stormy days.

### Good Loam Soil Should be Used

The cold frame soil should be a good strong loam thoroly mixed with well rotted manure. The sandy, gravelly, or very heavy adobe soils should be avoided. Have the seed beds perfectly level so that all parts of the frame may receive the same amount of moisture. If the soil is not moist enough when the seed is planted, a number of sprinklings may be necessary to complete germination. The plants will need sprinkling for a short time after they are up, but as soon as they are one inch or more high, they can be irrigated. The irrigation wets the soil deeper and more uniformly. The frequency of sprinkling or irrigation, will have to be determined by watching the plants.

### Amount of Seed to Plant

On an average four seeds to the inch is a good number to plant at a depth of 1-4 to 1-2 inch in rows 4 to 6 inches apart. At this rate of planting the results at the Station show that with good care, 150 good stocky plants for transplanting can easily be produced from each six foot row across the frame. According to this, it would take 3 1-6 ounces of seed to plant each acre with about 14,000 plants. Truck growers, however, plant 4 ounces of seed to produce enough plants for an acre. Figuring on getting 150 good plants to the row, it will take 93 1-3 rows in the frame to produce the 14,000 plants. If the rows are four inches apart it will require about 31 feet of frame, or 39 feet when they are five inches apart. In case there are less than 14,000 plants planted to the acre, there will be less seed, and cold frame space required. There are about 8,500 seed to the ounce.

FABIAN GARCIA

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## FERTILIZER FOR CABBAGE

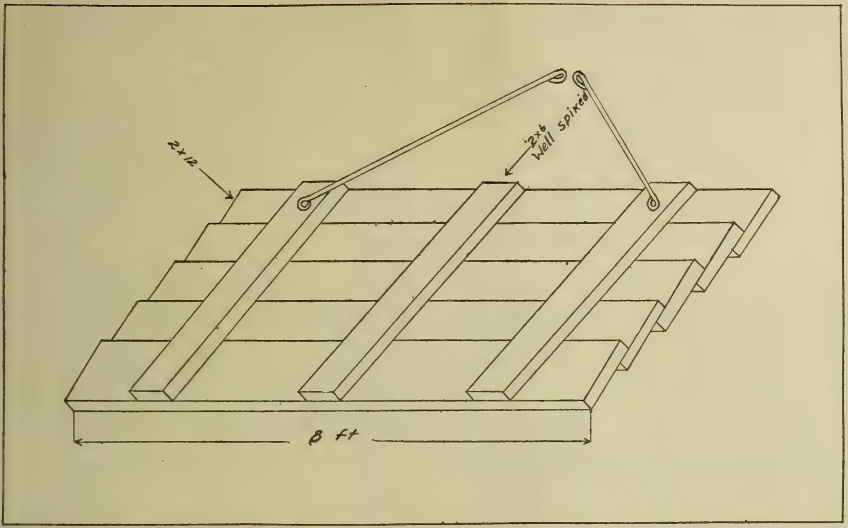
The cabbage plant absorbs large amounts of plant food to advantage. Experiments show that nitrate is the best adapted to this crop and it should be used in larger amount than it is ordinarily on other crops. In New Jersey, the yield has been increased from 40 percent to 80 percent, and the net value of the crop from $53 to $80 per acre by the use of nitrate fertilizer.

The experiments show also that 400 pounds per acre, which is a relatively large amount, gives a better relative return than a smaller amount would give. They found also that two top dressings gave better results than a larger number of smaller applications. This should be applied early, as the later applications tended to develop leaf growth and retarded heading.

In the experiments conducted, the addition of nitrate more than doubled the value of the marketable heads. The conclusion was that in the case of cabbage, the use of nitrate alone was more of a success than the use of mixed fertilizers.

But it must be borne in mind that the conditions of soil, climate and many other factors are so important that it is not to be expected that equally good results will be obtained by the use of the same fertilizer in different regions. The first use of fertilizer in a region where it has not been used much, as in most places in New Mexico, must be regarded as experimental. Careful record should be kept of everything done and of the results obtained, so as to profit from it afterwards.

L. A. HIGLEY



A good float to smooth land previous to seeding alfalfa. Made of five planks, 2''x12'x8', each overlaping three inches and nailed. On top of this are nailed three cleats, 2''x6''. To the front, two rods are fastened for the hitch.

# Seeding Alfalfa Under Irrigation

ALFALFA is one of the most important field crops ,if not the most important single crop grown under irrigation in the Southwest. As a soil builder it is unequalled and as a single crop, unsurpassed. It leads as both a pasture and a hay crop and in the long rotation it cannot be replaced.

### Well Drained Porous Soils are Best

Alfalfa will grow on nearly any soil under irrigation on which other crops do well and on many where others fail. Yet is does its best on a level well drained porous soil. One seeding of alfalfa should produce three or more crops of hay for several years, therefore much greater care should be taken in preparing the seed bed than for any of our annual crops. Once alfalfa is seeded, additional preparation of any portion of the seed bed is hardly practical during the life of the alfalfa on this particular field.

### Land Should be Smooth and Level

The land should be smooth and as nearly level as possible, so that when irrigated the water will pass over all parts of the field at a uniform depth. Portions of the field where the water stands as well as those portions that are too high to be thoroly wetted, produce unsatisfactory yields. The land intended for alfalfa should be leveled, bordered, plowed deep, and planted in one of the small grains the year previous to seeding alfalfa. After the grain has been removed, any spots in the field where the soil has settled, from being leveled, may be re-leveled or touched up. The land should be irrigated before plowing it to a medium depth. Dead furrows should be filled in, borders should be repaired, and left high enough to guide the water, yet not hinder farm machinery in crossing them. The spike tooth harrow should follow the plow to thoroly pulverize the soil. This should be followed with a float or drag to pack and smooth the surface.

### Date of Seeding

Alfalfa may be planted either in the

spring or fall, provided the soil is in good condition and free from weeds. In very weedy soils the planting should be done in the fall, in August or September. This gives the alfalfa time to develop roots and get a start on the weeds the next spring.

### Rate of Seeding

All seeds should be tested before seeding and only those that show a high percentage of germinating seed should be used. Fifteen to seventeen pounds of seed should be used for spring planting while twelve to fifteen pounds is sufficient for fall planting unless a nurse crop is used, in which case use about three pounds more.

Alfalfa should be planted with a drill, if one is procurable, just deep enough to thoroly cover the seed. The irrigation should follow immediately.

### Nurse Crop

The use of a nurse crop has both its advantages and disadvantages. It makes a heavier yield of hay the first cutting, but tends to crowd and shade the alfalfa, thereby weakening the young plants so that the following crops are lighter for at least the first year. It prevents spring blowing to a certain extent on our sandy soils, but it decreases the selling value of one or more cuttings of hay. Any of the small grains may be used as a nurse crop. Oats make the best feed mixed with alfalfa, and is therefore more commonly used.

GEORGE QUEENSBERRY

# HOME ECONOMICS

## Do You Make New Year's Resolutions?

HERE are some that are easy to keep and will make everybody happier.

Resolve to:

1 Hang up mops and brooms instead of standing them in the corner.

2 Always sweep the way of the grain. To sweep the wrong way tends to brush the dirt into the carpet instead of out, as well as being hard on the fibers.

3 Keep the windows down a few inches from the top even tho it is winter time. You need fresh air while you work and rest.

4 Put some oil on your dust cloth. It makes dusting twice as easy.

5 Use a small spoon for tasting cooking rather than the stirring spoon.

6 Put your soiled handkerchiefs away at once.

7 Get some steel wool at your hardware store to use for scouring. It also removes paint from glass easily, and can be used over and over again.

8 Cover up those leftovers from dinner. Who wants dirt and germs for supper?

9 Buy that pressure cooker this spring.

10 Get as many labor and time saving utensils and devices as you can. The housewife has enough to do anyway.

11 Send to your State College for bulletins on Home Making and Home Work.

12 Read the Home Economics department of the Courier.

13 Try out its suggestions.

Happy New Year,

LUELLA MADSON FOSTER

## THE FARM WOMAN'S PROBLEMS

The five outstanding problems of the farm women which call for special consideration, according to Florence E. Ward, who is in charge of extension work for women in the north and west, and who has conducted careful surveys thruout the United States, are:

1. To shorten the working day of the average farm woman.
2. To lessen the amount of heavy manual labor she now performs.
3. To bring about higher standards of comfort and beauty for the farm home.
4. To safeguard the health of the farm family and especially the health of the mother and growing child.
5. To develop and introduce money-yielding home industries where necessary in order to make needed home improvements.

These changes may most speedily be brought about by:

1. Introducing (a) improved home equipment, principal among which are running water and power machinery, and (b) more efficient methods of household management, including the rearrangement of the inconvenient kitchen and the installment of a modern heating system for the whole house.
2. Helping farm people to understand and apply the laws of nutrition and hygiene thru home demonstrations in:
   (a) Child care and feeding.
   (b) Food selection for the family.
   (c) Training in the essentials of home nursing, and
   (d) The installation of sanitary improvements.
3. Cultivating the idea that investment in the comfort, beauty, health and efficiency of the farm home and community is a wise and legitimate expenditure, and perhaps the only means of stopping the drift of young people to the city.

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## HOME LAUNDRY HINTS.

With the approach of cold weather we housekeepers need to use more care in the washing and drying of our clothes. The washing of flannels is of great importance. Only the best white soap should be used. If the water is soft one-half cup of borax may be added to the rinse water to whiten them. If the water is hard, make a washing solution of one large bar of pure white soap four quarts of water and two tablespoons of borax. Use one cup of the solution in luke warm water. Wring lightly and rinse flannels in water of the same temperature, adding two tablespoons of borax. After light wringing, pull flannels into shape and dry in a warm room. Never dry in a cold or freezing temperature.

In washing articles made of corduroy, never wring either by hand or the wringer, but hang up while wet and pull into shape. When partially dry, use a soft brush to smooth down the nap.

Overalls which are hung up without wringing require no ironing.

LUELLA MADSON FOSTER.

# FARM BUREAU

# The Washington Office and The Man Back Home

THE following are some extracts taken from a speech delivered at the American Farm Bureau Federation Convention at Indianapolis December 7, 1920, by Gray Silver, the Washington representative of the American Farm Bureau Federation:

You will find on the walls of my office at Washington a big bulletin board on which is listed each bill in which Agriculture is interested. Following the name of each bill is a record of its progress to date. The date of introduction, action or lack of action of committee to which it was referred, votes on the floor, if any, and various other important points referring to the bill's progress.

This bulletin is a constant reminder to us that certain Congressmen evidently need further information as to the needs of the farmer. We assume that if all Congressmen thoroly understood the needs of agriculture, most pending favorable legislature would move steadily forward.

Agriculture has need of an organization as big and powerful as it is possible to develop. Agriculture has problems to solve in the next ten years bigger and more vital than any that have confronted the tiller of the soil since the days of the pioneer.

Upon the constructive leadership of the next few years depends, in my opinion, the question as to whether the farmers of America are to become the leading class—the group upon which all others depend in fact as well as in theory—or whether the farmer is to be held at the point of marginal income, just on the edge of poverty, and looked upon merely as a necessary adjunct to the cities charged with the duty of supplying food at the cheapest possible price. Either condition is entirely possible. A slight shift in attitude and public opinion; a few changes in legislation here and there, and the transformation is made—in either direction.

Things are looking good down at Washington now, very good. The farmer is esteemed and listened to as never before. We feel very confident of important successes during the coming session of Congress. Our council is sought and there is the very evident desire on the part of Congressmen to meet our wishes. But I want to repeat, and repeat as often as I have the opportunity, the fact that our entire strength at Washington, our whole value and efficiency, depends upon you. "The man back home" is both the foundation and the keystone of this arch with which we hope to span some of the farmers' difficulties. If you will build up a structure made of "the man back home"—hundreds of him, thousands of him, yes, millions of him, and will keep "the man back home" active and interested and solidly back of the organization, we can get for you at Washington anything and everything the farmer has a right to ask. And without this solid support, we can get you but relatively little.

## H. S. MOLES BECOMES COUNTY AGENT LEADER

H. S. Moles, for the past three years county agent in San Juan county, has been transferred to the State Office as State County Agent Leader to take the place of Mr. J. W. Knorr, who resigned last fall. Mr. Moles will take up his new duties January 1.

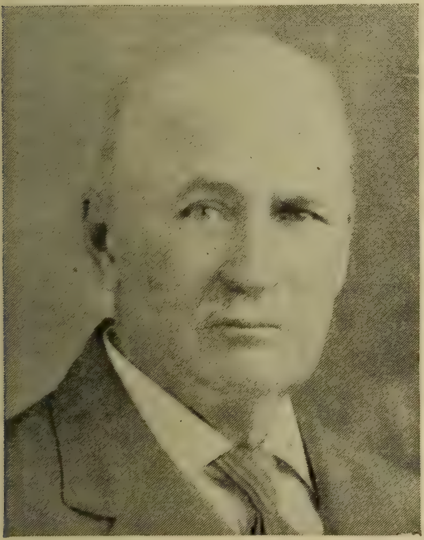
Mr. Moles was raised on a ranch in Colorado and received his training at the Colorado Agricultural College, largely working his way thru college. While in college he was a member of the Alpha Zeta honorary fraternity and while a senior won the Florsheim cup for being the best all around student judge at the Western Stock show at Denver. After leaving college he had charge of the Colorado State Reformatory farms at Buena Vista, for one year, taught agriculture in the high school at Greeley, Colorado for one year, and during the next three years was manager of the E. N. Clark ranch near Trinidad during which time he fed several thousand sheep and hogs, and several hundred cattle.

In San Juan county Mr. Moles has organized a farm bureau which has a membership of over half of the farmers of the county. The executive committee is composed of some of the most progressive men and women in the county and during the past year has put across some pieces of work that mean much to the county. Mr. Moles believes in backing up his ideas and during this past season has been feeding about 800 lambs to demonstrate to the farmers of San Juan county the possibilities of handling the surplus hay and corn in this way. With the training and experience he has had, he should make an especially valuable man in his new position.

# "Who's Who" Among Farm Bureau Presidents

## W. H. PATTISON OF CURRY COUNTY

W. H. Pattison was originally a hoosier, coming to Curry county from Indiana eight years ago. He successfully conducted the Clovis creamery for the first two years after his arrival, and at the same time operated the farm on which he lived three miles from town. Later he traded his farm for a large tract of land north of Clovis which he has been operating successfully for the past two years. In addition to his large farming operations he also operates a seed house, and offered a good market for Sudan grass seed by contracting for two thousand acres this past year. He is especially interested in better seed for the farmers and assisted in introducing spring wheat which has materially added to the wealth of the county.



W. H. PATTISON

Mr. Pattison was the first to bring the matter of employing a county agent to the attention of county commissioners, was instrumental in getting boys' and girls' work started, and has been an active worker in the farm bureau movement ever since it started. He was elected the first president of the Curry County Farm Bureau when it was organized in 1918, and has held that position ever since. He was one of the chief promoters of the hail insurance and telephone projects. The hail insurance saved the farmers $21,168.46 this past year and 118 miles of rural telephone trunk lines have been constructed. He is also secretary of the Curry County Fair association which put on the best fair it ever held this past year. It speaks well for Curry County that it has at the head of its farm bureau a man who is so public spirited and who is so willing to give his time toward furthering the interests of the county as is Mr. Pattison.

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## M. A. SCOTT OF UNION COUNTY

Mr. M. A. Scott, president of the Union County Farm Bureau came to Union county from Kansas where he was raised, eight years ago. He has been an active member of the Farm Bureau ever since it was organized in Union county, and it was because of his enthusiasm for the farm bureau movement and his personal efforts in farm bureau work in his community, that he was selected as president of the county farm bureau at the county wide meeting held last spring.

Mr. Scott has proven himself to be a good business farmer and has made a success of farming in Union county. He is grading up his livestock with registered sires, has a silo on his farm and is working to get his farm in operation on a systematic basis. He belives in the advantages of rural life and in the farming occupation, and is a firm believer in the future of the farm bureau.

# BOYS *and* GIRLS' CLUBS

### W. H. TRENTMAN TRANSFERRED TO STATE OFFICE

W. H. Trentman, who for the past year has been county club leader of Torrence county has been transferred to the state office as Assistant State Club leader and will have charge of the club work in the state. Mr. Trentman was raised on a farm in Kansas and Nebraska and also received his training there. He came to New Mexico several years ago to take up some government land and has taught in the Estancia high school for three years. He has therefore been in touch with New Mexico conditions and is well qualified to take up his new duties.

### CLUB RECORDS

Grown-ups, as well as club members, often fail to see the value of records. They say "we are not interested in the records, but we are interested in the development of the project." Club work cannot be carried on without records, for it is by the study of his own records that a boy or girl learns the value or folly of certain features of a particular proejct in which he is interested. It is true that he has literature to follow, but all children, like their parents, profit by their own experience and not by the experience of someone who has gone before.

The business training of keeping records is especially valuable to the child, no matter what his life work may be. Especially is this true at this time. Most farmers do not know what it costs to produce their products. They do know that the cost of production is more than ever before, but how much, they cannot tell. Figures show them that prices for their products are approximately 40 percent lower than they were a year ago. They have lost money, but they know not how much, nor do they know the item which caused the largest part of the loss. They have not the records to show cost of production, hence they cannot tell wherein lies the greatest loss.

It is generally conceded that rural financial returns for labor and capital invested will never reach their highest point until careful farm records are kept.

The farmer of tomorrow will keep a record of his work and methods of procedure, if, as a club member he learns the value of accounts.

W. H TRENTMAN

### INCREASED NUMBER OF DEMONSTRATION TEAMS FOR THE YEAR 1921

Plans are being made for another home economics demonstration and stock judging contest to be held next fall at State College. A larger number of teams will be trained for this work in the state, and competition will therefore be greater.

The value of demonstrations as conducted by well trained boys and girls teams is usually underestimated by those unacquainted with the quality of their work. Children who actually understand their work and with practice have learned to do it well, explaining as they work, are valuable to any community as well as an inspiration to their fellows. These teams are trained by community leaders assisted by the county workers. It is a fact that demonstration and stock judging teams instruct other boys and girls not engaged in club work, and cause them to become interested in activities of club members. Not only do they interest the boys and girls, but their parents and neighbors as well, who often compliment the work and assist in its betterment.

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